

THE

Desert

M A G A Z I N E

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Fall's Golden Carpet

By MARY BEAL

TRAVELING along a desert road in summer or early autumn you may be surprised to see sheets of bright yellow flung across the dull-colored pattern of vegetation. The chances are that those golden areas are made by *Pectis*, small members of the Sunflower family. Commonest species is called Chinch-weed because of its strong odor, which is considered similar to that of the chinch-bug. Opinions vary, however, as do olfactory senses. You'll find this heavy scent described as disagreeable, agreeable, strong-smelling, and lemon-scented. If you hold a sprig of it close to your nose and take a deep whiff, the strength of it will almost take your breath and you'll line up on the "disagreeable" side. But taken in moderation, as a passing sniff, the scent is toned down so the term "lemon-like" might easily be applied. "Lemon-scented" is the term used in the botany report of the Wheeler Expedition of the U. S. Geological Survey (1874) with the suggestion that those species so labeled might be "worthy as a source of extract."

The scent was pleasing to the Indians, certain tribes of Arizona and New Mexico using it as perfume and as flavoring for meat and corn meal dishes, either fresh or dried. They also made a dye from the plant. But for most of us its chief value is to enliven the drab floor of the desert at a time when most flowers have vanished. Of several species of *Pectis* the commonest one is

Pectis papposa (Chinch-weed)

A low, much-branched annual 3 to 6 inches high, vigorous plants occasionally twice that size, the several leafy branches forming a rounded tuft covered with bright-yellow flowers. The rank-smelling herbage is smooth and hairless, a bright lively green. The sessile, elongated-linear leaves ($\frac{1}{2}$ to over 1 inch long) are entire, the margins rolled back, and furnished at the base with a few pairs of stiff bristles. The thick mid-rib is prominent underneath, with a deep groove down the center above. The crowded flower-heads terminate very slender stems and measure about $\frac{1}{2}$ inch across, growing in loose clusters at the ends of the branchlets. Both ray and disk flowers are yellow, the 8 or 9 rays notched at the apex. The leaves and narrow bracts of the involucre are marked with translucent glands, quite regularly set. Only the ridged and slightly hairy achenes of the disk are crowned by a pappus, composed of 12 to 20 plumose bristles, that of the ray flowers being a mere circlet of minute scales.

One of the few annuals responding promptly and wholeheartedly to summer showers. I remember particularly a delightful array of them that a few years ago gilded the Palm Springs-Indio area in October, following a copious late-summer rain, accompanied by a few other ambitious species.

Very common on sandy and gravelly plains and mesas of the Larrea (creosote) belt, up to 3000 feet elevation, from June to October, in the Colorado and Mojave deserts and Arizona, extending to Utah, New Mexico and Sonora.

Pectis angustifolia

Similar to Chinch-weed, possessing an intense odor of lemon which Wheeler's botany report considered "worthwhile for experiment in cultivation," that "might be turned to commercial account." The leaves are comb-like below with closely-set lobes and dilated at the base, set with many oval glands as are the involucre bracts. The pappus of both ray and disk achenes is a mere crown of 4 or 5 short scales. Quite common on dry hills and sandy-gravelly mesas of the Larrea and Piñon pine belts of



Chinch-weed spreads a golden carpet in many desert areas from June to October. Beal photo.

Arizona, New Mexico, western Texas and Sonora, at elevations of 3000 to 7000 feet, blooming in late summer and early fall.

Pectis filipes

Another similar low, much-branched species, the smooth entire leaves very narrowly linear, an inch or two long, with numerous glands and 2 or 3 bristles on either side at base. The yellow flowers are $\frac{1}{2}$ inch or more broad, on very fine thread-like stems more than an inch long, the 5 lanceolate involucre bracts with papery margins and marked with numerous glands. The pappus of 2 to 4 stout stiff awns, awl-shaped and roughish.

Found from western Texas to Arizona and northern Mexico, on rocky slopes, sandy plains and mesas in the Larrea and Piñon belts at elevations of 3000 to 6000 feet, blooming from August to October.

Pectis prostrata (Fetid-Marigold)

The common name, Fetid-Marigold, is sometimes used for all the *Pectis* species but oftener given to this prostrate form. The slightly-hairy branches lie flat on the ground; the linear or oblanceolate leaves are strongly bristled at the base and dotted with scattered oil glands; the sessile flower-heads, are rather congested and much surpassed by the subtending leaves, the 5 oval involucre bracts with thin translucent margins. The pappus is composed of 2 to 6 lanceolate, very pointed, papery awns.

Found in the Larrea and Piñon belts at altitudes of 4000 to 6000 feet from August to October, on dry slopes and open sandy plains of western Texas, New Mexico, southern Arizona and Sonora.

Pectis longipes

A low, diffusely-branched perennial with a woody rootstalk, often not more than 4 to 8 inches high, the branches trailing or sometimes ascending, conspicuously angled and grooved. The very narrow leaves are all near the base, an inch or two long and liberally provided with roundish, pellucid, brown glands along the margins, with several long bristles at the base. The yellow flower-heads may measure an inch or more across, at the tip of long, thread-like naked stems, the 12 to 15 involucre bracts linear-lanceolate, with only a single gland or none. The pappus of the disk achenes is composed of 20 to 40 unequal roughish bristles, that of the ray of only 2 bristles or strong awns and sometimes a few scales. It grows on rocky slopes and gravelly flats at elevations of 3500 to 5500 feet from western Texas to southern Arizona and northern Mexico, blooming from April to September.

DESERT Close-Ups

• The day following Japan's peace offer, the editor of Desert Magazine and John Hilton met at John's gem, art and cactus shop on Highway 99, and the following conversation took place:

Editor: "John, you know what the rockhounds are thinking about this week, don't you?"

John: "I reckon I do. Every blasted one of 'em is making plans for a field trip."

Editor: "That's right, and it is up to you and Desert Magazine to suggest the places to go."

John: "You mean you want some mapped field trip stories for the mineral collectors?"

Editor: "You're reading my mind, John. Beginning with the November issue, we want a mineral field trip in every issue of Desert—with maps showing how to get there."

John: "All right, boss—we'll start with a new geode field out in the Chuckawalla country, outside the bombing range. And there'll be more coming up."

• Almost on the eve of V-J day the Navy moved Marshal South and his family from their Ghost Mountain home "for the duration." His article this month tells of their temporary refuge. Since they are in an isolated area, the Desert office has not heard from Marshal since the "duration" ended—but they probably will be climbing back to Yaquitepec shortly.

• For the next issue of DESERT, Hope Gilbert has written the story of Adolph Bandelier, pioneer archeologist in New Mexico. In his memory the spectacular ruins of *El Rito de los Frijoles*, first explored by him, were established as Bandelier national monument—and here is the setting for his classic novel *The Delight Makers*.

• It's all right to dream—but during the past few years the Campfire Breakfast on this month's cover was so far out of reach, DESERT editors since April 1942 have been holding back this tantalizing campfire scene marked "Reserve for first issue after V-JE Day."

DESERT CALENDAR

- Oct. 7-14—New Mexico state fair, Albuquerque.
Oct. 15—Desert Museum, Palm Springs, opens.
Nov. 10-12—Frontier Day celebration and date exhibit, Indio, Calif.

HUNTING SEASONS

- Deer—Arizona, northern zone: Oct. 16-Nov. 15 (Bill Williams wildlife management area: Oct. 23-Nov. 15); California: Sep. 1-Oct. 31 (Imperial county: Sep. 16-Oct. 15).
Ducks—Nevada: Oct. 13-Dec. 31; New Mexico: Nov. 2-Jan. 20; Utah: same as Nevada.



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Death Valley from Dante's Point. Photograph by Josef Muench.

LIGHT IN DARKNESS

By MORA M. BROWN
Riverside, California

As in the darkness of the desert night
The cereus bares its petals one by one,
So in the darkness of earth's bitter plight
Unfolds a light far brighter than the sun.

With day, the perfume and the flowers depart,
To be rekindled but in memory's store;
But God's great love unfolding in the heart
Will shine away earth's hatred and earth's war.

THE GENTLE WIND

By DONALD G. INGALLS
Los Angeles, California

The vagabond of space is here.
His mood today is merry.
His breath is cool and fragrant,
Perfumed with nature's sherry.

See him moving through the Aspen,
He has done so since their birth.
Now he whispers to the grasses,
And they shake with silent mirth.

Oh, Wanderer of the Wastelands,
Today so gentle and fine,
Would that my existence,
Were as gay and free as thine.

From Dante's View

By RUBY LYTL
Montrose, California

No warmth of chaparral has clothed this lonely
peak;
No April sings among ferruginous ravines,
Which wear the chiseled mask of death—austere
and bleak,
Untouched by spring, forsaken by the evergreens.

A mile below, a phantom river serpentines
Through salt beds furrowed with the Devil's
cloven prints,
And far across the valley weather-gouged
tureens
Pour molten silver on the giant Panamints.

Exile of starry laurel-fragrant hills, I seek
To break the silence of the desert's throbless
heart.

O Spirit wind that stirs the palms of Furnace
Creek,
I, who have talked with canyon streams, have
here no part!

THE WATER HOLE

By IDA SMITH
Prescott, Arizona

I wandered through the hills one day,
In quest of desert flowers;
The kind that grew in rocks and rills
Without the need of showers.

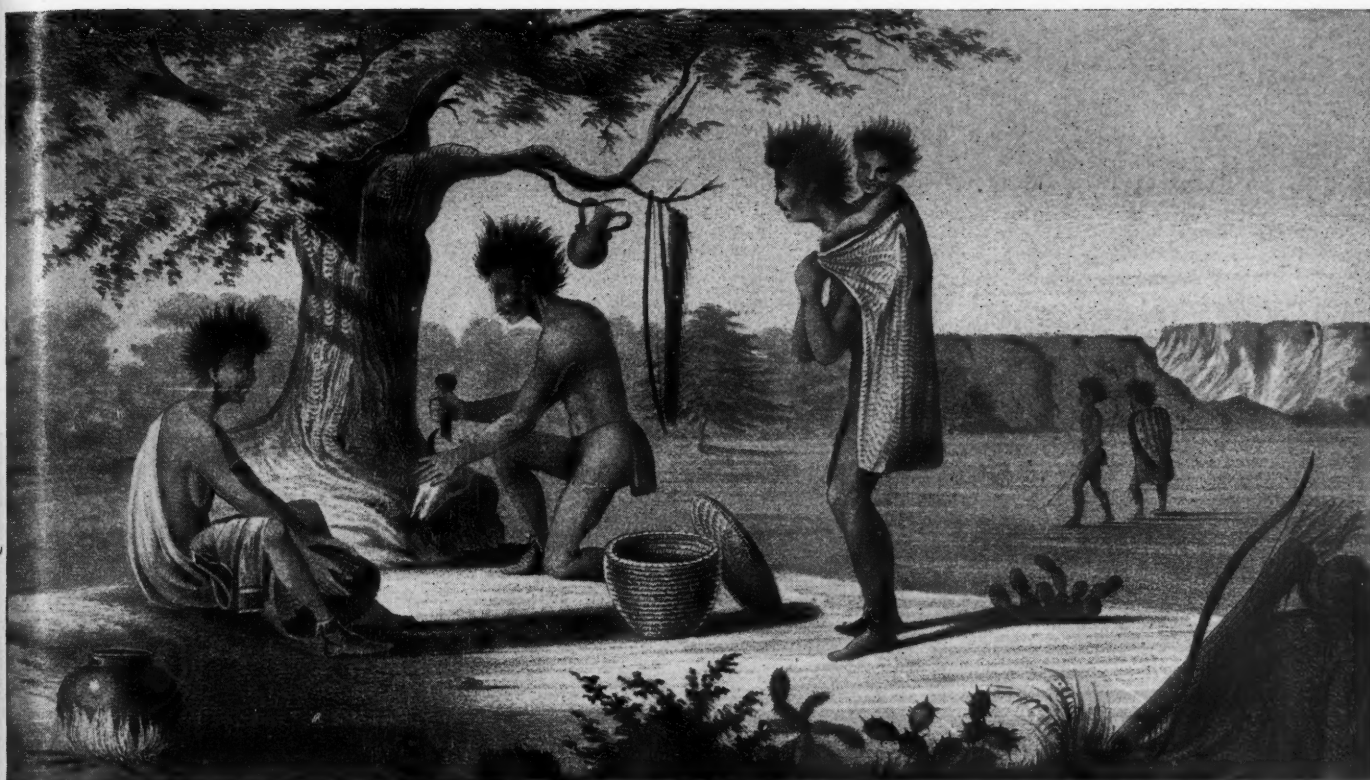
And there beside a water hole
Some cattle lingered long,
And lifted gentle eyes to mine,
While sparrows winged their song;

And with trusting look of mute appeal,
Drew near as I passed by
So sure that I could help them,
For the water hole was dry!

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

The bird that sings in the cactus bush
Is borrowing none of life's sorrow;
He gives today the best that he has,
Leaving God to care for tomorrow.



Kern's sketch of the Yampai Indians who ambushed Leroux as he was scouting for the Sitgreaves party in northern Arizona.

Antoine Leroux-Pathfinder

Antoine Leroux is one of the "forgotten men" of western American history. As trapper, scout, guide and Indian fighter, he was no less esteemed in his day than his brilliant contemporary, Kit Carson. Unfortunately, there was no biographer to record the exploits of this French-Canadian guide of 100 years ago, and it has been necessary for Charles Kelly to go to many sources to compile the meager record contained in this brief story of one of the West's most dauntless trail-blazers.

By CHARLES KELLY

Illustrations accompanying this story are reprinted from the Sitgreaves report, and were made by R. H. Kern, artist for the expedition. The lithographer was Ackerman of New York.

SUNRISE of November 3, 1851, found a government exploring expedition camped on Yampai creek in northwestern Arizona. Across the breakfast campfire, finishing his third cup of black coffee, squatted the French-Canadian guide on whose knowledge of the country and its hostile inhabitants rested the success or failure of the expedition.

"Well, Antoine," said Capt. Lorenzo Sitgreaves, "will we find good water on today's journey?"

"I am not certain of that, Captain," replied Antoine Leroux, thoughtfully. "I have trapped this creek many times, but never crossed from here to the Mojave villages where you want to go. It might be best to wait while I look over the country ahead."

"Very well," Sitgreaves said, "the horses need rest and the grass is good here."

Picking up his rifle the guide rose to go. "If I find water," he said, "I will make a smoke signal and you can move on in the morning."

"Good! We will watch for it."

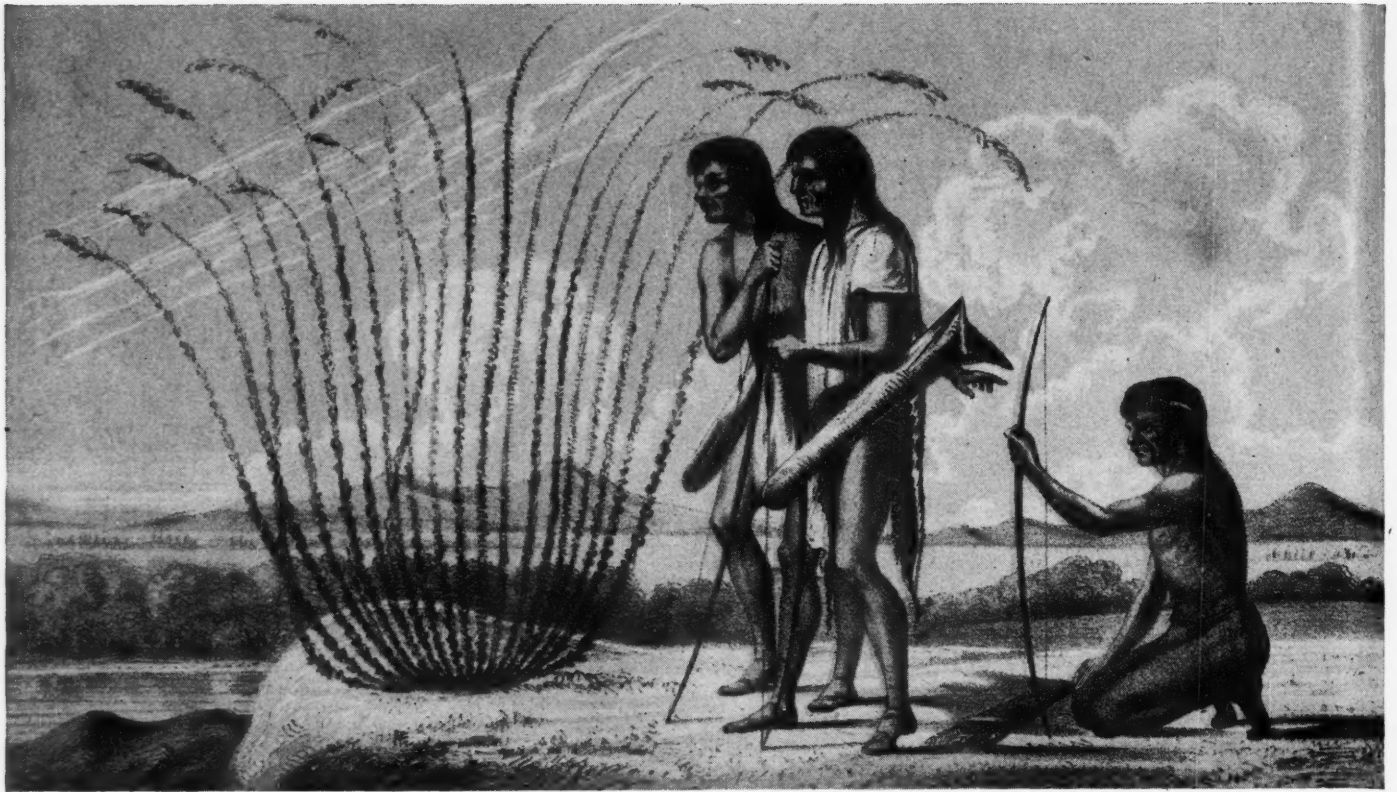
Mounting his Indian pony Antoine was soon out of sight in the broken desert. Up to that point it had not been necessary to do much scouting. He knew the country over which they had passed and was familiar with all its streams and waterholes. But the desert ahead was new to him. As he rode on and on the chances of finding water seemed more uncertain. Finally, in the distance, he saw a small mountain and rode toward it, hoping to obtain a more extensive view of the country. Climbing steadily

over rocky ledges and around large boulders he had almost reached its summit when he heard the ominous twang of bowstrings and found himself the target for a flight of arrows. Before he could dismount he had stopped three of the sharp flint points, two of which struck him in the head and one in the wrist.

Stunned by the sudden attack he fell from his horse, cursing himself in French for having been so careless. He should have known the Yampai Indians would have lookouts on every high point. They were close by, he knew, but fearing his rifle, remained concealed until they were sure he was dead.

Fortunately, Antoine's skull was hard and the two arrows had glanced off, leaving painful but not serious wounds. The one in his wrist had gone deeper. He pulled out the shaft but could not dislodge the flint point. Catching his horse he slowly and carefully worked his way down the slope out of range, then mounted and rode back toward camp, wrapping his bleeding wrist in an old piece of buckskin.

The pain of his wounds was bad enough, but what he could not bear was the thought of what Captain Sitgreaves and his men would say when they learned he had been so careless as to fall into an Indian ambush.



Cosnino Indians in northern Arizona.

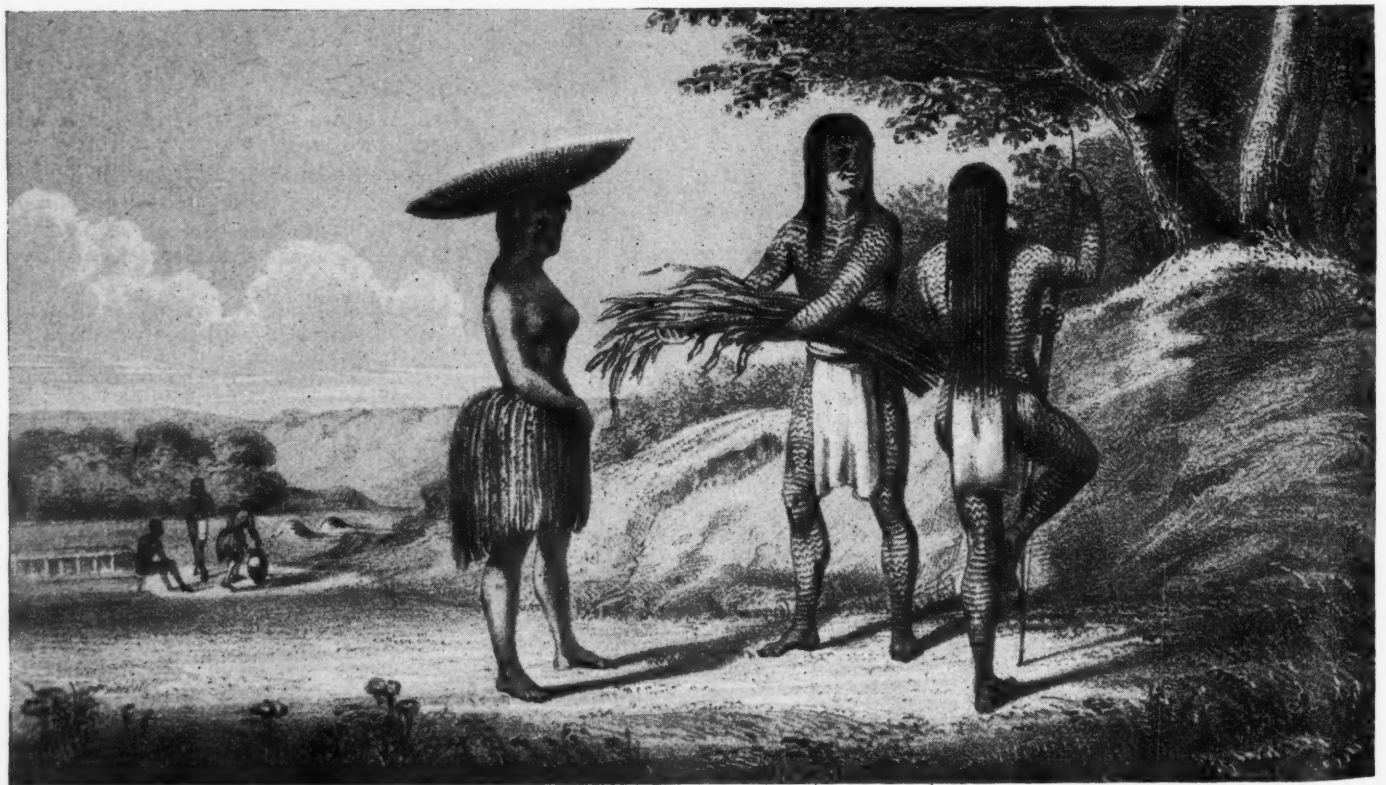
For Antoine Leroux had a reputation to maintain. He had trapped every stream in the Southwest and was considered the outstanding guide and authority on all that country and its hostile Indians. Because of his experience he had been hired to guide this expedition.

How had he gained such an intimate knowledge of so vast a territory, whose wild inhabitants had been hostile since the days of early Spanish exploration? Unfortunately we have little information on Antoine Leroux's early life, for like most French-Canadians, he never kept a journal

of his travels. If he had, he would now be as famous as his contemporary, Kit Carson. However, the little it has been possible to glean from various sources seems well worth recording.

The Leroux family appears to have settled in St. Louis at an early date. Antoine

Mojave Indians visited by the Sitgreaves party in 1851.



first went to Taos, over the Santa Fe trail in 1822, probably with the Robidoux brothers, and thereafter made it his headquarters, marrying a Spanish woman and receiving a grant of land near Arroyo Seco. He undoubtedly assisted Antoine Robidoux in establishing Fort Robidoux, near present Delta, Colorado, and afterward (1837) Fort Uintah in northeastern Utah. His earliest expedition into Arizona seems to have been with Michel Robidoux in 1827. Near the Maricopa villages this party was attacked and nearly wiped out. The survivors joined James O. Pattie's trappers, continuing down Gila river to the Colorado. Here Pattie's group turned south to the gulf, while George Yount's party, undoubtedly including Leroux, went north at least as far as the mouth of Virgin river.

On a subsequent trapping expedition Leroux met Bill Williams on the stream which now bears his name. These incidents are all that is known of Leroux's early travels in the Southwest, but his detailed knowledge of that section proved he had explored almost every mile of it.

For some reason Leroux does not appear again in the records until 1836. In that year Gen. Kearny and his dragoons left Fort Leavenworth for California by way of Santa Fe and Gila river, guided by Kit Carson, Thomas Fitzpatrick and Antoine Robidoux. Behind them came Col. Cooke with the Mormon Battalion and a wagon train which, not always able to follow the cavalry, had to find a different route. The pathfinder employed for this difficult task was Antoine Leroux, whom Col. Cooke described as "a most sensible and experienced guide." Leroux guided these wagons where no vehicles had ever traveled before, his exploit placing him alongside Carson and Fitzpatrick in ability.

When the California campaign was concluded Leroux seems to have returned to Taos. Trapping was then about played out and he devoted more time to his ranch. But he was often called upon whenever the services of a dependable guide were required. In March, 1849, he guided Lieut. J. H. Whittlesey's military expedition against a band of hostile Utes, the same band which soon afterwards killed Leroux's old friend, Bill Williams. Again, in November of that year, he was chief of scouts under Capt. Grier, leading an expedition to avenge a massacre of whites by Apaches at Point-of-Rocks, when a Mrs. White had been taken captive. Discovering the hostile camp Leroux halted the command for a parley with the Apaches; but Kit Carson, disregarding instructions, rode headlong toward the camp, revealing the presence of soldiers. The surprised Indians wounded Capt. Grier, then killed Mrs. White before escaping.

During that same year Lieut. Simpson led an expedition into the Southwest, leaving his name on Inscription Rock and ending his work at Zuñi. To continue that



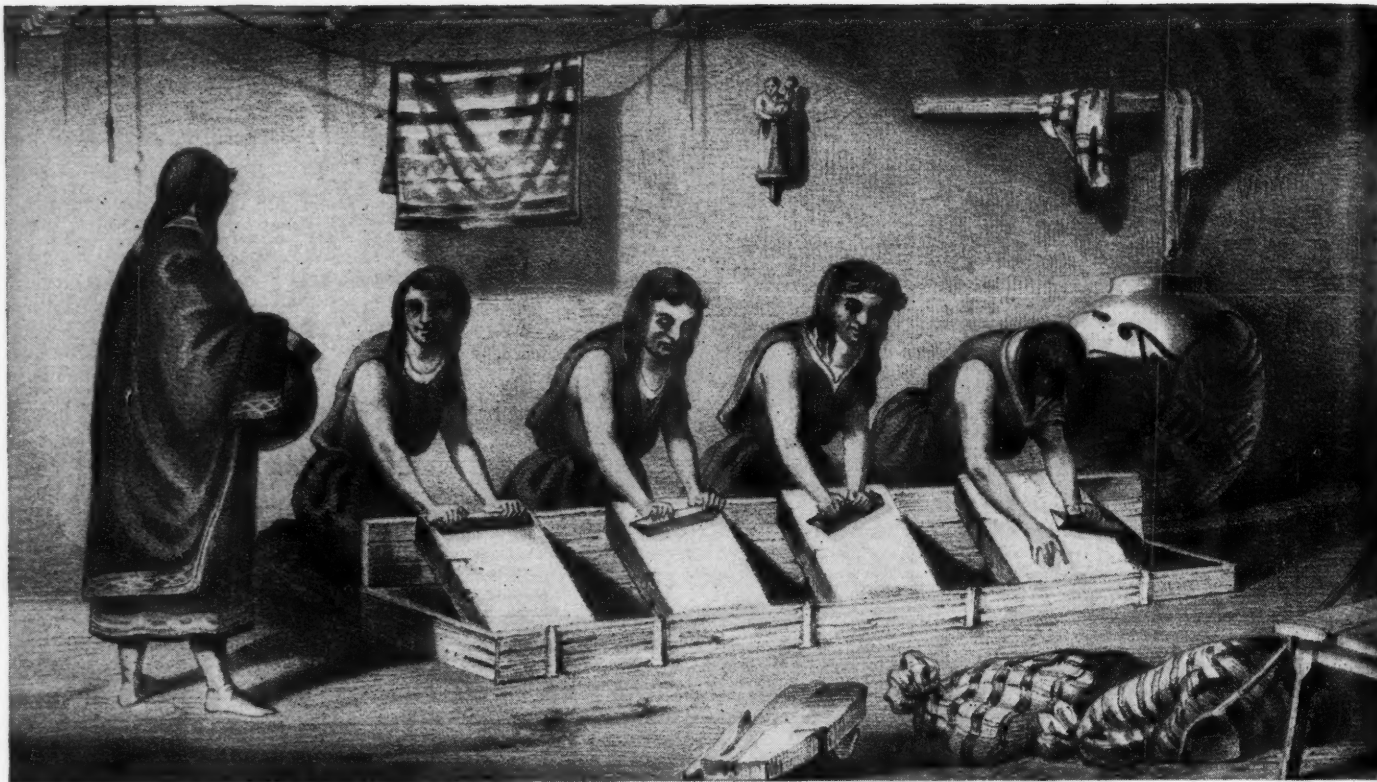
Zuñi buffalo dancer sketched at the time Capt. Sitgreaves was mapping the Zuñi river.

work the government in 1851 ordered Capt. Lorenzo Sitgreaves to map Zuñi river, the Little Colorado, and continue across the Colorado into California. In Santa Fe, where his expedition was organized, Sitgreaves hired Antoine Leroux as guide.

This expedition traveled to the mouth of Zuñi river, down the Little Colorado to the falls, around the west base of San Francisco mountains, then across the desert

to Yampai creek, where Leroux ran into the Indian ambush and was seriously wounded. Making his way back to camp he was treated by the army surgeon, Dr. Woodhouse, who removed the flint point. His head wounds healed quickly, but the one in his wrist became infected and gave him much pain and trouble the rest of the journey.

From Yampai creek Sitgreaves traveled southwest to the Mojave villages along the



Women grinding corn in Zuñi pueblo.

Colorado, then south to old Camp Yuma, where the camp was attacked by Indians, one soldier being killed. That no greater loss was suffered was due to Leroux's knowledge and advice. Sitgreaves had planned to explore upstream as far as the Virgin, but shortage of supplies compelled him to continue from Camp Yuma direct to San Diego.

Leroux remained in San Diego until April, 1852, when he was engaged by John R. Bartlett to guide the Mexican boundary survey eastward from that place. When Bartlett's party reached the Maricopa villages on Gila river, Leroux met Chief Blanco, who led the fight against Michel Robidoux, in which he nearly lost his life.

The year 1853 was a busy one for Antoine Leroux. In May he met Edward F. Beale, superintendent of Indian affairs, on the Santa Fe trail. Beale wished to be guided to California and Leroux agreed to go, but was taken sick and could not make the journey. In the meantime two government railroad survey parties had reached New Mexico, one under Lieut. Whipple, the other led by Lieut. Beckwith and Capt. Gunnison. At Albuquerque Whipple engaged Leroux as guide, but while the expedition was preparing for the journey his services were requisitioned by Gunnison, who was to explore a route from Santa Fe to Grand river and across the Green into the Great Basin. Picking up his "experienced and well known guide" in Taos on August 19, 1853, he began searching for a practicable railroad route through the mountains.

Gunnison found that Leroux knew every

mountain pass and its possibilities as a railroad route, describing them accurately in advance and saving much difficult travel. Crossing the mountains this party struck the headwaters of a stream later named for Capt. Gunnison, followed it some distance, crossed to the Uncompahgre and struck the old Spanish trail which Leroux had traveled many times with Robidoux.

Within sight of the Abajo and Lasal mountains on the upper Colorado, Leroux pointed out the Spanish crossing of Green river, mapped the route and returned to keep his appointment with Whipple. Traveling at night, with only two companions, he passed through the hostile Ute country safely. Of his services with Gunnison the artist Mollhausen said: "The confidence which he inspired—a confidence that had been earned by thirty years' toil in primeval wilderness—made us all rejoice not a little at having secured his services."

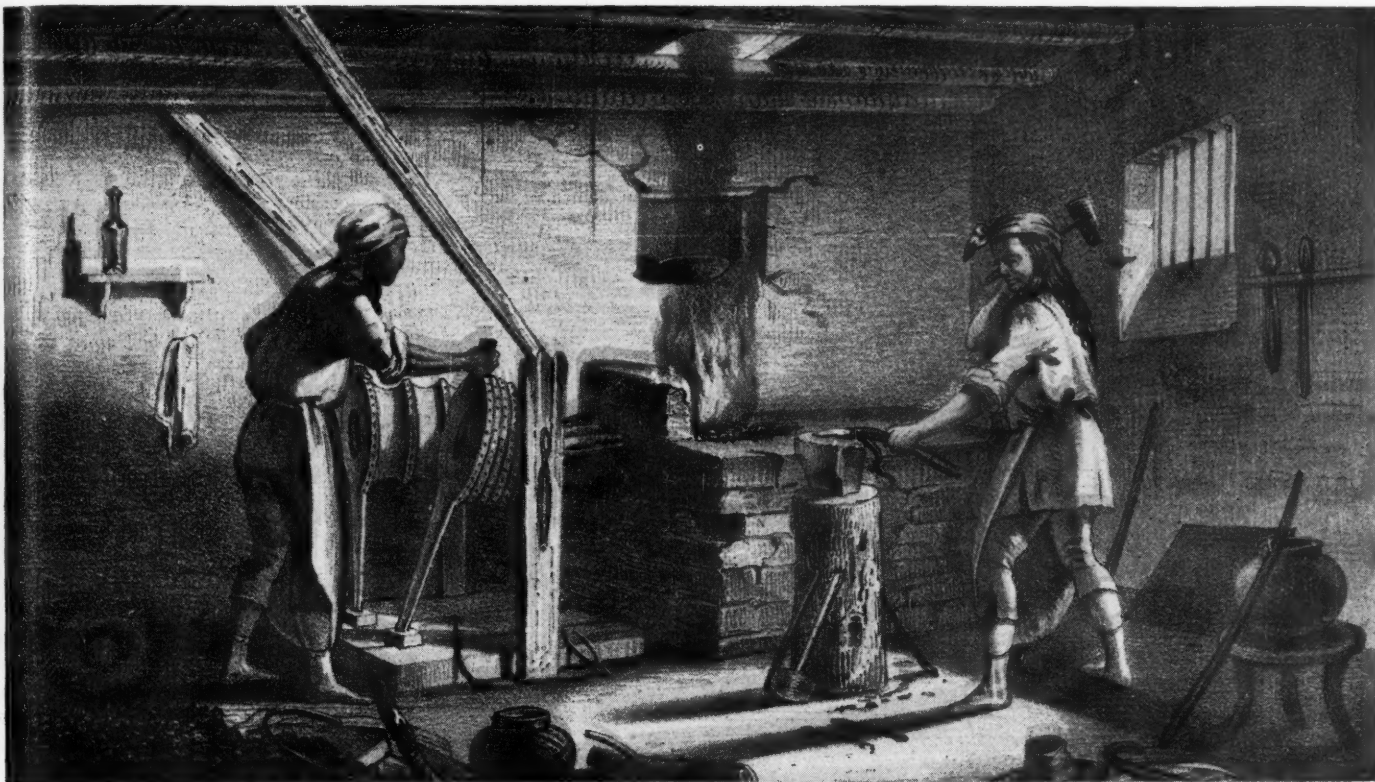
Back in Albuquerque Lieut. Whipple had assembled an immense cavalcade of 114 men, 16 wagons and 200 mules. He left on November 7, his route being through Laguna and Zuñi, past the present sites of Holbrook and Flagstaff, around Bill Williams mountain, down Bill Williams river to the Colorado, upstream to Needles where he crossed, then up Mojave river past Soda Lake to intersect the Spanish trail and continue into California through Cajon pass. In later years this became approximately the Santa Fe railroad route.

To conduct such a large expedition through almost waterless deserts placed a heavy responsibility on the guide. In places

Leroux crossed and sometimes followed his route with Sitgreaves two years previous. On White Cliff creek he met the band of Yampai Indians who had tried to kill him, but the size of Whipple's party kept them peaceable. Christmas was spent at Cosnino Caves near Winona, Arizona. After abandoning most of their wagons the party made a difficult crossing of the Colorado at the Mojave villages, being the first, Leroux said, to pass that place without a fight. Continuing west to the old Spanish trail they met a group of Mormons who told them Capt. Gunnison and most of his party had been massacred by Indians on Sevier river in Utah.

Returning from Los Angeles in May, 1854, Leroux traveled from the Pima villages to the Little Colorado at the mouth of Cañon Diablo, discovering the famous ruins in Verde valley. This route is shown on early maps as the Leroux trail.

Of his subsequent activities very little is known. No doubt he retired to his ranch at Arroyo Seco or his home in Taos. I have not been able to learn the place or date of his death. But Antoine Leroux deserves something better than oblivion. During his lifetime he was considered the equal as a scout of his fellow townsman, Kit Carson, contributing much to early knowledge of the Southwest. The routes he explored later were used by both railroads and highways through New Mexico and Arizona. But his only monuments are Leroux Wash at Holbrook, Leroux Island in the Little Colorado, and Leroux Springs near Flagstaff, named in his honor by Sitgreaves and Whipple. All those he guided spoke highly



Indian blacksmith shop at Zuñi in 1851.

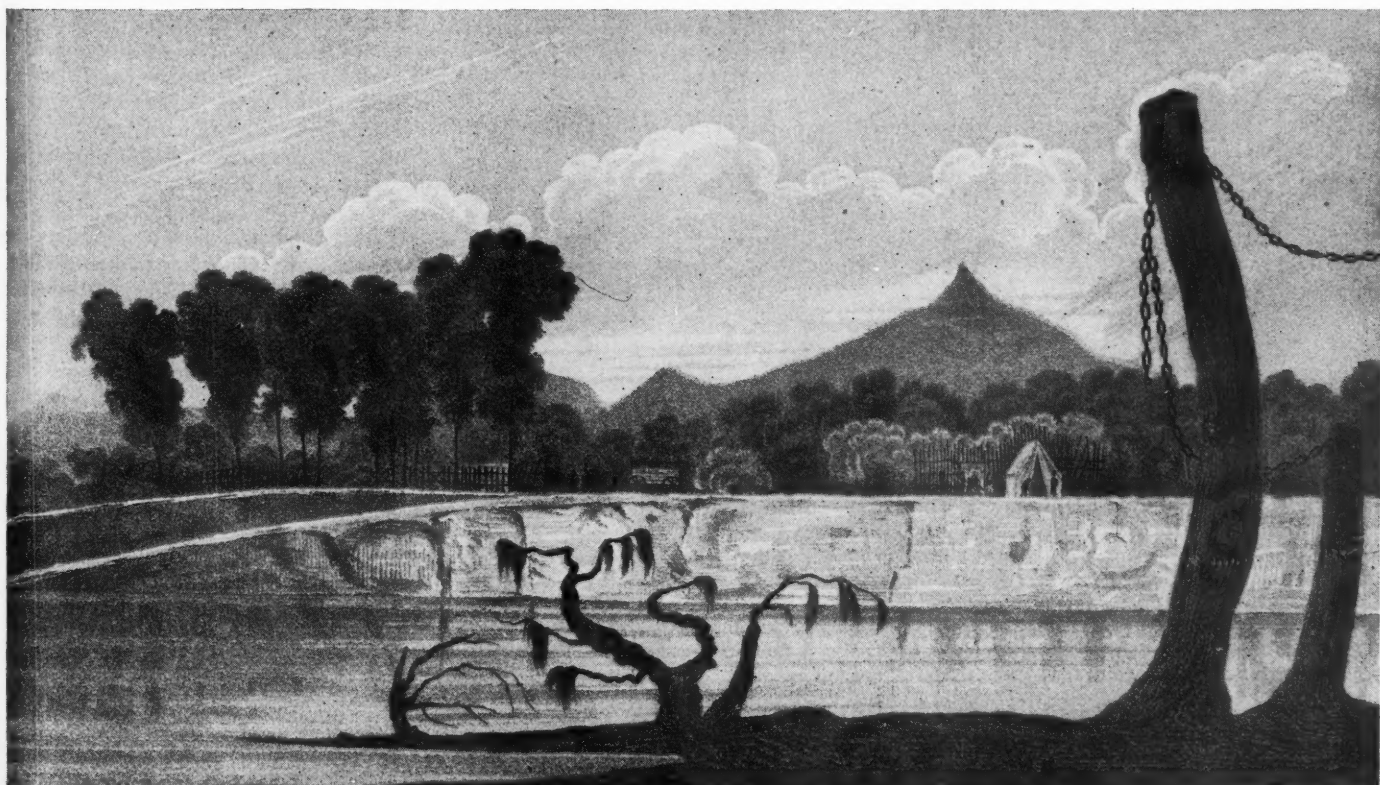
of his knowledge and ability, but none took time to record a description of the man himself.

It is exceedingly unfortunate that Leroux left no written record of his experiences, since he had a good education in both French and English. He was selected as a

delegate to the territorial convention at Santa Fe in 1851, and had been frequently consulted by topographical engineers when the first railroad surveys were projected. As late as 1868 his letters containing accurate descriptions of the Southwest were quoted by John C. Van Tramp and others.

No biographer discovered Antoine Leroux in time to preserve his story. Practically all that is known of him is contained in this brief sketch. This is a great loss to western history, for Antoine Leroux was one of the real pathfinders of the Southwest.

Fort Yuma at the time the Sitgreaves expedition crossed the Colorado there in 1851.



According to Navajo legend, the tribesman who keeps a four-horned ram in his flock will prosper and grow rich. It is a sacred animal and plays an important role in the folklore of the Indian tribe. Here is the story of its origin, as told to Richard Van Valkenburgh by Little Lefty as they sat by the campfire and ate goat leg and fried bread. Here also, is the white man's story of the introduction of sheep into the Indian Southwest.

Sacred Ram of the Navajo

By RICHARD VAN VALKENBURGH

A STRANGE beast picked its way across a narrow ledge on a sheer cliff in the Cañon del Muerto in northern Arizona. When it stuck its moony face over the side and wagged its four looping horns down at me I knew I was seeing things!

Old Sam, my Navajo friend and mentor, let me puzzle it out for a moment before he said, "'Tis *Denetsáh bideen*, Old Four Horns, the sacred ram!"

Old timers had told me of the sacred ram of the Navajo. But this was my first meeting with him. In years past I had tried

Old Four Horns.



to locate one but when I followed the lead they were either dead or non-existent. I told Sam to secure camp as we were going to follow the ram wherever he went.

A staccato sound not unlike the buzz of a rattler stirred the silence of the canyon. Searching for the source I looked upward to see sheep begin to drift across the cliffs. When they bunched high upon Twin Trails they were a fleecy white cloud passing from the last glow of sunset into the blue mist that was tucking the abyss in for the night.

When the flock reached the bottom and strung out behind *Denetsáh bideen*, I discovered the origin of the disquieting sound. A small herder shyly glanced at us as he passed shaking a tin can filled with pebbles. Old Sam said as we started to trail behind, "'Tis the way they hurry the sheep along."

We had to set a stiff pace to keep up with the flock. Soon they turned into a deep scallop in the towering walls of the canyon. Across the grain-laden cornfield a thin white ribbon of smoke spiraled upward to guide us to the camp. When we reached the *chaho'o*, or summer lean-to, an old Navajo squatting inside welcomed, "*Hagóla*, where you going?"

"Right here, my friend," Old Sam answered as our host beckoned us to sit with him. "This is *Hastin Hásidiyazih*, the Lesser Inspector. He has followed your *Denetsáh bideen* down from Twin Trails like a coyote. He comes to find out more about your sacred ram."

While we stuffed ourselves on goat leg, fried bread and watermelons, Old Sam passed on the news of sings, politics and tidbits of scandal to our host whose name turned out to be *Hastin Tl'a yazih*, Little Lefty. When the conversation began to run dry I asked, "Now, about that four-horned ram of yours, Grandfather . . ."

"To tell the story of *Denetsáh bideen* I will have to begin with a little part of the *Yo'o batal*, or Beadway chant," began Little Lefty.

"The singers tell that long before we Navajo had sheep there was a gambler named *Naxo'ilpai*, He Who Wins. He came down to the home of the Earth People from the heavens carrying a talisman of turquoise. When he reached *Kinteel*, the Wide House at Pueblo Bonito, N. M., he used this charm to win everything the People had, even their minds and bodies.

"From their homes on the sacred mountains the Gods watched. When they saw their children lose everything they called for a council on *Dzoot dzill*, which the *Bilakana* call Mt. Taylor. For eleven days and nights they danced and prayed. On the twelfth day they gave *Hasjéhogan begay*, House God's son, magic equal to that of the Gambler.

"No sooner had *Hasjéhogan begay* reached *Kinteel* when the Gambler challenged him to play. For twelve days and



"The New-Born Lamb"—Sketch by the Navajo artist, Charles Keetsie Shirley.

nights they gambled. And then the magic of the Gods prevailed and the People were slaves no more. In happiness they took their goods and went to their hogans.

"In great anger the Gambler swelled up like a balloon. Slowly he began to float upward into the sky. Up and up he went until he was a speck no larger than a sand-fly. Then the people heard him curse in a strange language, 'I shall return with war, famine, and disease!'

"Then the headman said, 'Tis the speech of another tribe. That Gambler was not a Navajo.'

"Naxo'ilpai floated upward until he reached a long row of stone houses. Therein dwelt *Békosidi*, the deity that the white-skinned people call God. After hearing the Gambler's story *Békosidi* felt sorry for him. So he said, 'My son, I have just created a new people. You shall be chief over them—the *Nakaih* or Mexicans!'

"Then *Békosidi* gave him bayeta and other bright and beautiful cloth. He gave him silver ornaments and fine cloths embroidered with gold. Then he had Thunder teach him how to make gunpowder and use guns. After this he gave him sheep, horses, chickens and other tame animals.

"When *Naxo'ilpai* prepared to return to Earth with these things, *Békosidi* said, 'My son, there is one thing I cannot give you. That is *Denetsáb bideen*, the Four Horned Ram. For he is being kept by the Navajo Gods for the use of the *Diné* themselves.'

"The Gambler's people greatly increased in Old Mexico. After a while they began to move north and built 'dobe houses around Santa Fe on the Rio Grande. When

the Mexicans were all settled and their flocks began to move out toward the Navajo country the *Ye'ii* sent down *Dontsab*, the White-Headed-Fly, with a message for the People.

"*Dontsab* told them, 'Go down towards *To'o baad*, the Female Water, which the Mexicans call Rio Grande, and take some of those tame sheep of *Naxo'ilpai*'s children. When you return with them the Gods will give you something that they have kept for the Navajo alone!'

"So the Navajo went and took some sheep. When they returned to their camps in the Cañon Largo they started to take good care of them. Then the ewes had lambs. Everyone was excited when they went out and saw that one ewe had a lamb with four horns on the top of its head.

"Then the medicine man said, 'La! 'Tis *Denetsáb bideen*, the sacred ram. This is as the Gods promised the Navajo. We must always keep him and his kind. For he is the sign of perpetuity. La! The man who keeps a four-horned-ram in his flock will prosper and grow rich!'

While I preferred Little Lefty's version of the divine origin of the sacred ram, science has its cold opinion regards this peculiar animal. The multi-horn characteristic is hereditary and occurs in less improved types where there has been no effort to eliminate inbreeding.

During the pause Little Lefty and Old Sam pressed me for the *Bilakana* belief in the origin of sheep in general. As I was aware that both would be skeptical as to any observations I might have made, I

evaded the four-horned-ram and agreed that *Naxo'ilpai* must have been the Mexican I had heard about.

I went on to give the White Man's ver-

NAVAJO WORDS

denetsáb bideen—Four horned ram
chaho'o—Lean-to shelter used in summer

bagóla—Where are you going?

Hastin Hásidiyazih—Mr. Lesser Inspector (Van Valkenburgh's name in eastern Navajo)

Hastin Tl'a yazih—Mr. Little Lefty

yo'o batal—Beadway chant

naxo' ilpai—Gambler of Kinteel

"He who always wins"

Dzoot dzill—Refers to Mt. Taylor in sacred way

Bilakana—American

Hasjéhogan begay—Son of house god

Békosidi—White man's or Mexican's God

Ye'ii—Navajo Gods—sometimes *Ye'ii bichai*

Dontsab—White Headed Fly—messenger of the gods

Doya' chonda—Bad—strong!

Hwelte—Fort Sumner, N.M., Spanish 'fuerte, fort'

Hashkinini—War name—hard to interpret

Lilizhin—Black Horse

Wacington—Washington

Chá'tsoib—Big Belly—Capt. Frank T. Bennett

Tó ní nilini—Water Pourer *Ye'ii*

sion of the introduction of domestic sheep in the Americas. In 1538 Hernando Cortés, the conquistador, brought the first Spanish Merino sheep as well as Churro sheep to his hacienda at Cuernavaca, near Mexico City. Later he distributed them among the missions of Mexico.

Two years later Coronado left Compostela with the first domesticated sheep to enter the Southwest. Only a few remained when the Quivira-bound expedition reached the Tewa pueblo of Pecos in present New Mexico. Here amidst the curious puebloans the sheep were left in the care of Father Luis de Escalona, who was to be murdered at instigation of the medicine men in 1542, one of the two first martyrs of New Mexico.

It was easy to associate *Naxo'ilpai* with Juan de Oñate for he was the Spaniard who began to colonize the upper Rio Grande in 1598. History records that it was not long before the Navajo began to raid the frontier settlements. Navajo unwritten history and Spanish archives agree that from these forays came the original stocking of the Navajo flocks.

Little Lefty smiled when I stopped, "La! Your story is almost as good as the Navajo one. But not quite so good. Mine is not done."

"After getting the sacred ram our flocks multiplied like the seeds of sage. Following *Denetsáb bideen*, our sheep grew accustomed to Navajoland's rugged mountains and dry deserts. They grew long wool and their legs became long so that they could walk a long way between sunrise and sunset."

"When I was a boy it was not uncommon for a rich man to own 5000 ewes. But they got careless about keeping the laws of the Gods. The four-horned-rams started to disappear from the flocks. The elders nodded their heads and said, 'It is bad when *Denetsáb bideen* goes away—evil days are upon us!'

"Then came Kit Carson with his Utes and Mexicans to kill our warriors and murder our sheep. The big flocks were smashed. Only the wolves and coyotes drank from our springs. As our people began their long walk to Hwelte—far to the east into captivity on the Rio Pecos—the elders said, 'Remember the curse of *Naxo'ilpai*. I shall bring war, famine, and disease among you!'

"When *Wacingtona sita*, he who sits in the White House, allowed us to return to Navajoland in 1868 we found that some of our sheep were still alive. *Hashkinini*, in Monument Valley, and *Lilizhin*, Black Horse in the Red Rocks, had got away with some of our sheep. But they did not have enough to get the Navajo started back in sheep business."

"So *Wacingtona* helped us out. One year after our return all the Navajo were called to Fort Defiance by *Chá'tsoih*, Big Belly, whom the *Bilakana* called Captain Frank T. Bennett. Each Navajo, large and small,



Each Navajo child has a share in the family flock.

was given three ewes. When the lambs came the women nursed the weak ones on their own breasts. That is how we got started in the sheep business again."

"Is it true that the Navajo sing a ceremony over their sheep as they do people?" I asked Little Lefty.

"Oh, yes," answered the old Indian. "Sheep have become almost sacred to us old people. As you may know there is even one sand-picture that shows them with the other sacred animals. And then we know that a four-horned-ram was issued with those given at Fort Defiance in 1869. And we say, 'That was an omen from the Gods. With *Denetsáb bideen* came our present prosperity!'

"When dipping time comes in the fall we start worrying for fear that our sheep might drown in the vat. So we sing a one-day *Hozboni* or Beautyway ceremony over the flock. We do the same when we move camp—for there is always danger of lightning, whirlwinds, and bears!'

"I see that you have old type Navajo sheep in your flock, Grandfather," I commented. "I have seen very few of these—and mostly in the west around Navajo mountain."

My question brought a grunt, "Well, many years ago the agents started running around saying, 'These old scrawny Navajo sheep aren't much good. You people need another kind of sheep that will give you

a lot of meat as well as wool. So they started to mix up Rambouillet and other White Man's breeds with our Navajo."

Feeling the fine and soft texture of a natural dye blanket that lay beside me I asked, "Grandfather, just what kind of wool is the best kind for weaving blankets like this?"

"The women say that a blanket is no better than the wool from which it is woven. The best comes from the back cuts of the old Navajo sheep. For this is the longest and finest wool. Today—with only a few of the old sheep left the blankets are not so good. In the old days I have seen them woven so fine that they would hold water!"

"What do you think of the future of Navajo as sheepmen?" I questioned.

Little Lefty was almost sad as he answered, "We old people live in the things of the past. We know that the world has changed since our youth, but we don't like to think of it. We still dream of grass that reaches up to tickle a horse's belly. Many of us still think that the grass will return if *Tó ní'nilini*, the Water Pourer, will give us rain."

"The young men who hang around the agency say, 'The grass is only a mirage. Pray all you want to *Tó ní'nilini*—he'll bring you no rain and grass.' Then down at Chinle school where they scratch things on paper making fun of my sacred ram, here is what my granddaughter brought home from school:

*Grandfather's four horned ram
His role of sacrilege is ended
We Navajo have been blind too long
Fooled into believing that he was
blessed.*

"Now this grandchild of mine may be right. But we Navajo cannot survive on White Man's ways alone. We must always depend on prayer and faith in our Gods. For we are now in the generation of which the omen was made by the Holy People, 'Unless faith is kept in the Navajo Gods the Diné and their Earth shall crumble away to nothing in the twelfth generation!'

We walked into the wide path of moonlight down from the white shell disk that was the autumn moon. Its gentle, silvery light spread over the rims to creep into the canyon patterning great patches of light and shadow. When we reached the corral, partly made by the cliffs, the sleeping sheep were white blotches against the dark earth."

Looking down at Old Four Horns who lay by the gate guarding his flock, Little Lefty murmured, "*Denetsáb bideen* is more than a sheep. To us old people he is a symbol of the prosperous and great days of the Navajo. Right now it makes me feel secure to stand here and know that I own him. For he is the gift that long ago the Gods gave the Navajo to insure their perpetuality."

There's delicious food beneath the spiny skin of the prickly pear cactus—if you will take the trouble to brush off the spines and strain out the seeds. The Indians and Mexicans have been eating it for generations—and in North Africa where the American cactus was im-

ported many years ago, the prickly pear now occupies an important place in the food markets. Here are directions for harvesting and preparing cactus honey, tuna "cheese" and other candy-like products from the fruit of the prickly pear cactus.

Mexicans Call it Tuna

By JERRY LAUDERMILK

Drawings by the Author

JOE AGUILAR was the first to tell me about cactus fruit. That was at Wickenburg, Arizona, many years ago. Joe knew a great deal about the kinds of cactus that grow in Mexico. From him I first learned that the spineless cactus is not, as I had supposed, a North American prodigy, but had been cultivated in old Mexico before the days of the conquest.

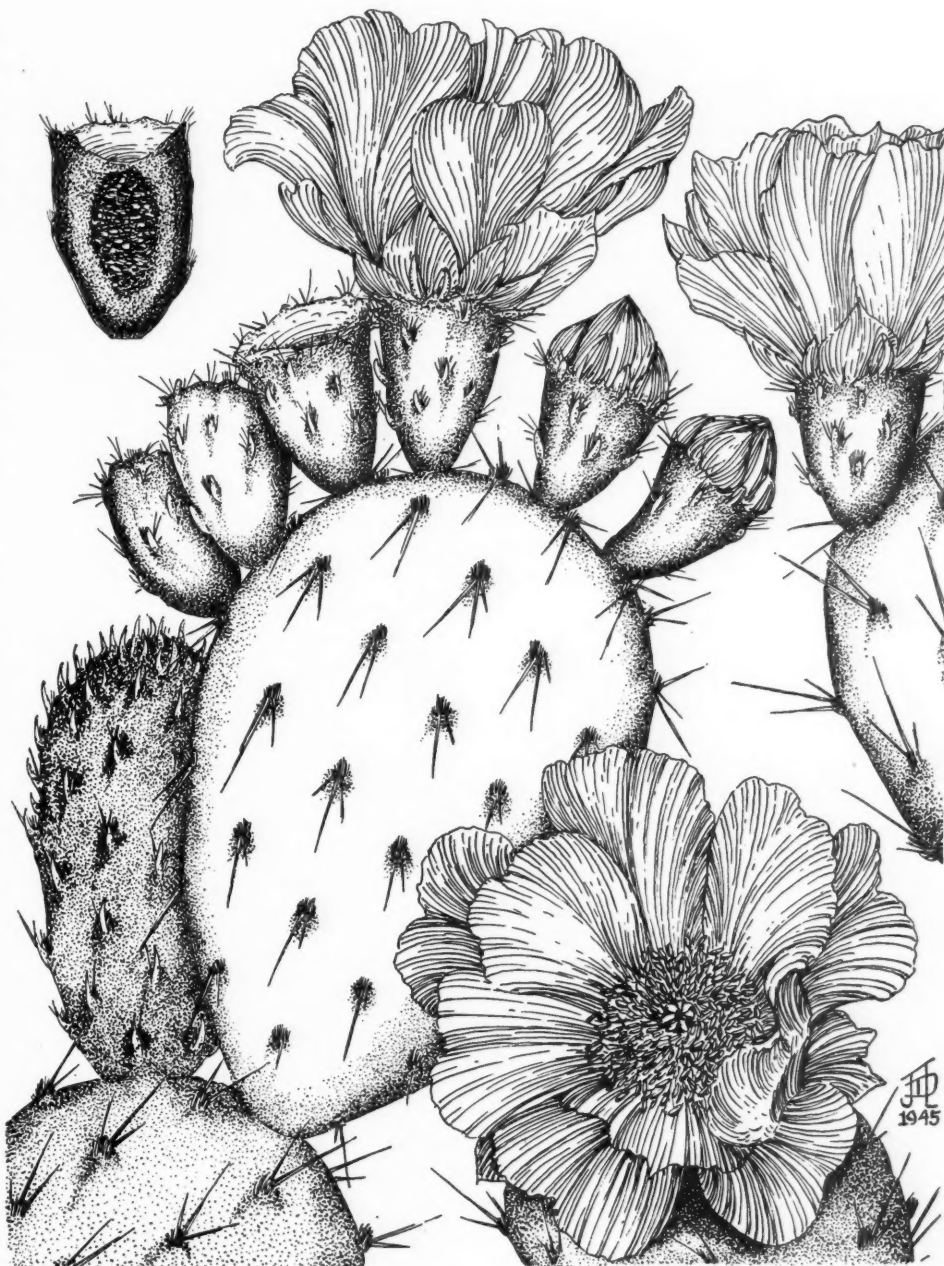
Joe knew all about the pitahaya (pronounced pee-ta-yah), or fruit of the saguaro cactus. According to him, the Pima Indian new year began in July with the pitahaya harvest. This was a gladsome season when most of the tribe gathered in the saguaro forests and became luridly drunk from home brew that came from the fermented fruit.

Alfred Contreras, another of my Wickenburg neighbors, was the local tinsmith, and he had perfected a gadget for taking the seeds out of tuna, the fruit of the prickly pear cactus. He knew little about tuna, except the process of de-seeding the fruit—but he told me where I could go for expert information in the art of making tuna honey and other candy-like products. It is good information to have in these days of ration points and sugar shortage—and so I am passing it along to Desert readers.

The prickly pear, like all but one of the large cactus family, is a native of America. Mexico seems to be the center whence all the cacti spread over the two Americas and some species of the prickly pear is to be found in every state of the union except Maine, New Hampshire and Vermont.

But it is only in the Southwest that the plant becomes impressive. From here to southern Mexico stands of the nopal are, in places, a striking feature of the landscape.

During spring and early summer the cacti, fantastic aggregates of flat, oval and usually spiny pads growing one from another at many curious angles, are covered with beautiful flowers commonly of some shade of yellow, red, salmon or magenta. Later, the fruit ripens as the actual pear or tuna. These are red, purple, orange or yellow depending on the species or variety.



Opuntia vaseyi: A common wild California tuna having many varieties. The typical flower is said to be salmon-colored but yellow, bronze, rose and magenta blossoms are common. This specimen had yellow flowers; fruit is red. A section of the tuna is shown at upper left.

In practically all cases the fruit is protected by an efficient armament of spines, and tiny barbed *glochids*. This is one of the main reasons why this very palatable fruit has never become popular north of the border.

Many species, both the wild forms and the *mansas* or tame varieties are staple articles of food with the Mexicans and the Indians of the Southwest. But to deal successfully with this strictly American fruit requires a certain amount of knowledge.

Practically all the common types of prickly pear are perfectly safe to eat provided the spines are removed and the seeds discarded. Many Indians and other folk including myself eat seeds and all. However, since the average amount of edible material amounts to only 28 per cent, a man would be practically half full of seeds before he had made a satisfactory meal, so it's a good plan to use patience and remove the seeds.

The first operation when about to eat a tuna is gathering the fruit. To deliberately

grab a pear without a little preliminary fixing can be one of a tenderfoot's most disagreeable minor disasters. Fingers instantly grow a painful stubble of tiny, hair-like spines which are a saint's own job to pick out since the barbed tips remain in the skin. Fortunately they are rapidly absorbed or at any rate cease to nag after a day or two. This distressing initiation is unnecessary. Here is the way to gather tunas without discomfort:

Make a small brush by gathering a bunch of dry grass about a foot long and as big around as your thumb. Wrap two-thirds of the stem end with string to make a handle and you have the time-proven spine remover. Now, simply brush the surface of a pear thoroughly as it grows on the pad. Spines and glochids stick to the grass and the fruit is finally de-spined. In place of the grass broom you may use any leafy twig strong enough to stand up under the brushing. White sage makes a fine brush. This method is for choice fruit within reach.

In other cases the tunas are best gathered with tongs made by splitting a stick about two feet long for three-fourths its length and keeping the arms open with a wedge tied in place. These are used as pliers to pluck the fruit from the bush. As picked the fruit is dropped on the ground and spines removed either with the brush or by rolling it in the sand coyote fashion. Brushing is better.

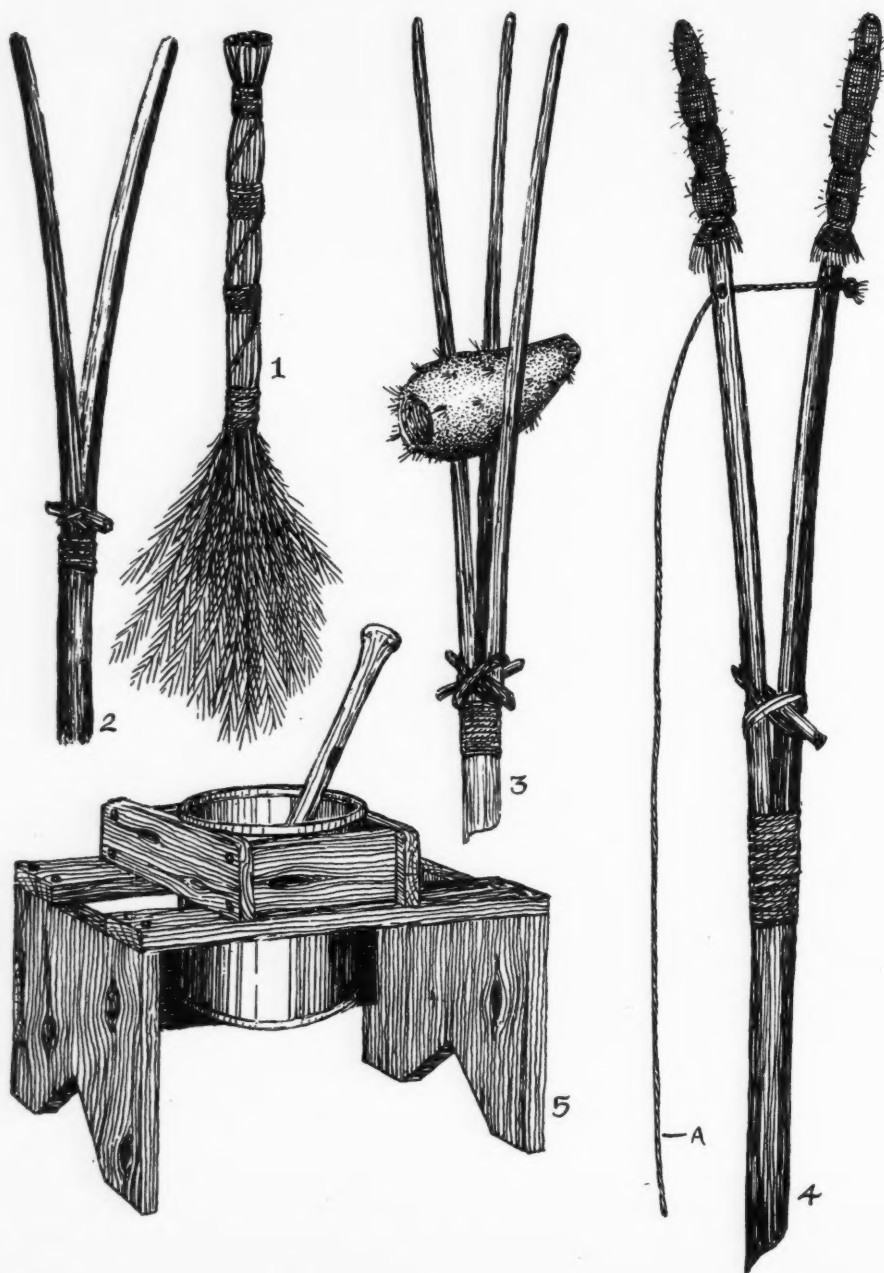
Tunas that grow beyond reach are picked with a special tool made by splitting the end of a long pole, preferably bamboo, into three 14-inch sections. These are kept open with two wedges so as to make a sort of three-prong spear. When this is pushed around a tuna it is firmly held with two prongs on one side and one on the other. Tongs or pole damage the fruit and it has to be used at once. This is avoided by using the tongs of my own invention and shown in the cut.

After you have gathered your first tunas you will probably want to sample the fruit. The proper technique for eating tunas is to slice off the flower scar on top and the stem scar at the bottom and then peel off the skin.

Now for the cooked tuna products:

Miel de Tuna. Suppose you have gathered a couple of baskets of ripe tunas, wild red ones and tame yellow "mission pears" and want to make tuna honey. The method is simple but requires patience and know how. Peel the tunas thinly with a sharp knife, leaving considerable rind as it contains much juice and some sugar. Half fill a deep kettle with the peeled fruit. Add water to cover completely. Boil steadily for two hours and replenish water as it evaporates. When thoroughly cooked the seeds settle to the bottom. Cool, and strain the pulp through a metal sieve to remove seeds and big pieces of fiber. Some cooks are satisfied to use the thick jam-like paste just

Tools and fixings for handling tunas: (1) grass broom for removing spines, (2) tongs for tunas within reach, (3) Mexican type of tuna snare, three prongs on a long pole, (4) improved tuna snare. The tips of the tongs are covered with burlap to prevent bruising fruit; when the string A is pulled the jaws close and tunas can be picked as easily as if by hand. (5) Tuna seeder. The bottom of a tin pail is punched full of small nail holes from the inside and mounted in the frame shown. A crock is to be placed underneath and as the tunas are pulped with a potato masher the juice runs into the crock.



as it is for the next step, but the finest miel de tuna is made by re-straining the pulp through muslin.

Next, put the strained juice in a double boiler and boil down until it is as thick as honey. It is now finished except the cooling which must be done properly to prevent fermentation. Pour the hot honey into a wooden bowl (wood so that it will not cool too rapidly) and stir with a paddle so that plenty of air will be worked into it until it is completely cold. In case you use a wooden chopping bowl an old one is best since new bowls are waterproofed with wax which is apt to melt loose and spoil the honey. Cover the cold honey with a cloth and let it stand 12 hours. Preserve in jars as you would honey.

Miel de tuna will go to sugar in a few months but this does not interfere with the flavor. Red tuna honey is garnet-colored with a flavor something like that of honey and molasses plus a trace of pickled beets. Yellow fruit makes a deep orange-colored product with the combined flavors of honey and butterscotch candy. The intensely sweet flavor of the tuna products is remarkable since no sugar is added in the making. Miel de tuna was a luxury among the Aztecs and jars of tuna honey were standard articles of tribute frequently listed in the ancient manuscripts.

Melcocha. To make melcocha requires more handling than does miel de tuna. You begin as in making tuna honey, but the pears are first seeded. The standard seeder is a tin cylinder holding about a gallon and fitted with a shallow, conical bottom (slope of sides about 30 degrees). The bottom is punched full of holes too small for a seed to pass. Inside this cylinder is a wooden mechanism like an old fashioned ice cream freezer dasher.

Peeled tunas are dumped in at the top and mashed by turning the dasher. The pulp flows through the holes into a bowl placed beneath. In place of this regulation seeder which costs about \$8.00 to build you can make a satisfactory substitute from a flat bottomed pail or large tin can as I show in the cut.

Having prepared a couple of gallons of pure juice (no water is added to melcocha) fill a kettle about two-thirds full and boil for about an hour. Much foam and gum will rise to the top. Skim this off and add fresh juice to make up for volume lost in boiling, and cook for another hour. Repeat the boiling and skimming until all the juice has been added. By this time the syrup is very thick and ropy. Use either a double boiler or very low fire and cook down until the pulp is too thick to fall from a wooden spoon held bottom up. Pour warm pulp into a wooden bowl and work with the paddle just as you did miel de tuna. Cover and let stand 12 hours and preserve in regulation fruit jars. Its keeping qualities are excellent. It may begin to candy within a



Improved tuna snare in action. The writer gives a demonstration using O. vaseyi as his subject.

month but in my opinion this simply makes a better product.

Queso de Tuna. This is a trifle too hard to make without an apprenticeship with miel and melcocha. Queso is for all practical purposes an extra thick melcocha which has been "beaten" 250 to 500 times by throwing a big lump of dough-like tuna paste forcibly from a height above the cook's head onto a stone table. The effect is somewhat the same as pulling taffy and, as a Chinese cook would say "a great deal of celestial moisture" is added in the process.

Tunas are also preserved by drying, a favorite way with Indians and Mexicans alike. To dry Indian style dig a pit about two feet deep. Make a fire that will burn down to a good bed of coals and cover the coals with a layer of smooth rocks about as big as your fist. Remove the hot rocks with tongs and cover the coals with a layer of salt bush twigs to a depth of about two inches. On this place a layer of de-spined tunas which should be green or not more than two-thirds ripe. Cover the tunas with hot rocks. Make another layer of salt bush on the rocks and a second layer of tunas and then more rocks and so on until the pit is full. Now add a final layer of salt bush and cover with dirt. Leave it over night.

In the morning the tunas will be limp and mostly flat from pressure and show the color of cooked green peppers. They are now ready to dry on racks as you would apricots. Cooking does several things. Untreated tuna is practically airtight and unless cooked the fruit would dry very slowly. But the heat breaks down the cell structure so that water is lost rapidly. Cooking also helps in preservation by killing spores which may be present.

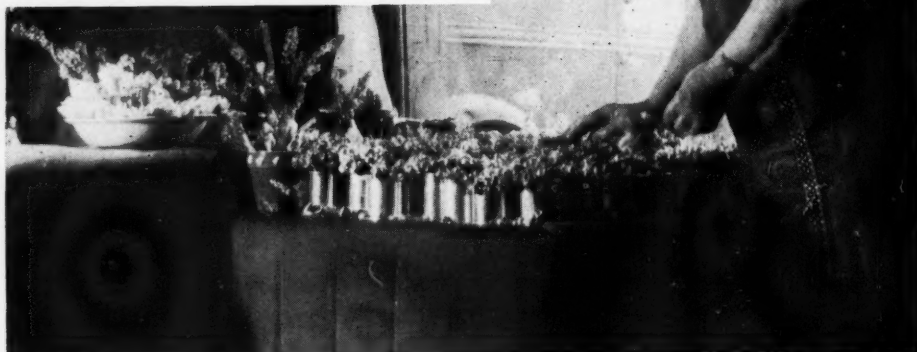
Another way to dry tunas is the Mexican method: Peel the fruit as thin as you can and dry the whole fruit on racks or use a modification of the method by splitting each fruit so as to expose an evaporation surface.

Dried tunas are usually cooked by boiling or stewing. Dried green tunas have a peculiar flavor like dried green apples without a trace of sweet and are cooked with other fresh fruit for flavor, while the dried ripe tunas taste like sweet, red peppers.

Another time I intend to tell readers of *Desert* about some of the other numerous uses for the prickly pear. But for this time why not take a tip from the folks of "Old Wickenburg" and enjoy what the desert has to offer in the way of tunas, the kind which requires no ration points.



Ages ago when the present Salton Sea basin in Southern California was filled with a great clear-water lake, millions of tiny creatures were busy building their limestone shells. The lake has long since evaporated—but the sea shells are still there, preserved by the dry desert atmosphere. And now an ingenious woman whose home is in this desert basin, has found a way to gather those prehistoric shells and from them create little decorative novelties that have widespread popularity.



Gertrude Favier in her home workshop, making the sea shell bouquets that are so much in demand.

She Sells Sea Shells --on the Desert

By JOHN HILTON

STRANGE sights may be seen on the desert—and sometimes they need a bit of explaining.

For instance, if the visitor happens to pass a certain sand dune area in the Coachella valley of California when a grey-haired woman with a broom is busily sweeping away at the base of a dune, there is no need to become alarmed as to her sanity. It probably is Gertrude Favier on a collecting trip. Gertrude Favier is a very rational person, as you will learn presently.

Closer inspection will reveal that she is

gently sweeping up tiny sea shells and placing them in a carton. And if you ask her, "Why the sea shells?" she likely will reply, "I am gathering prehistoric shells to use in my jewelry."

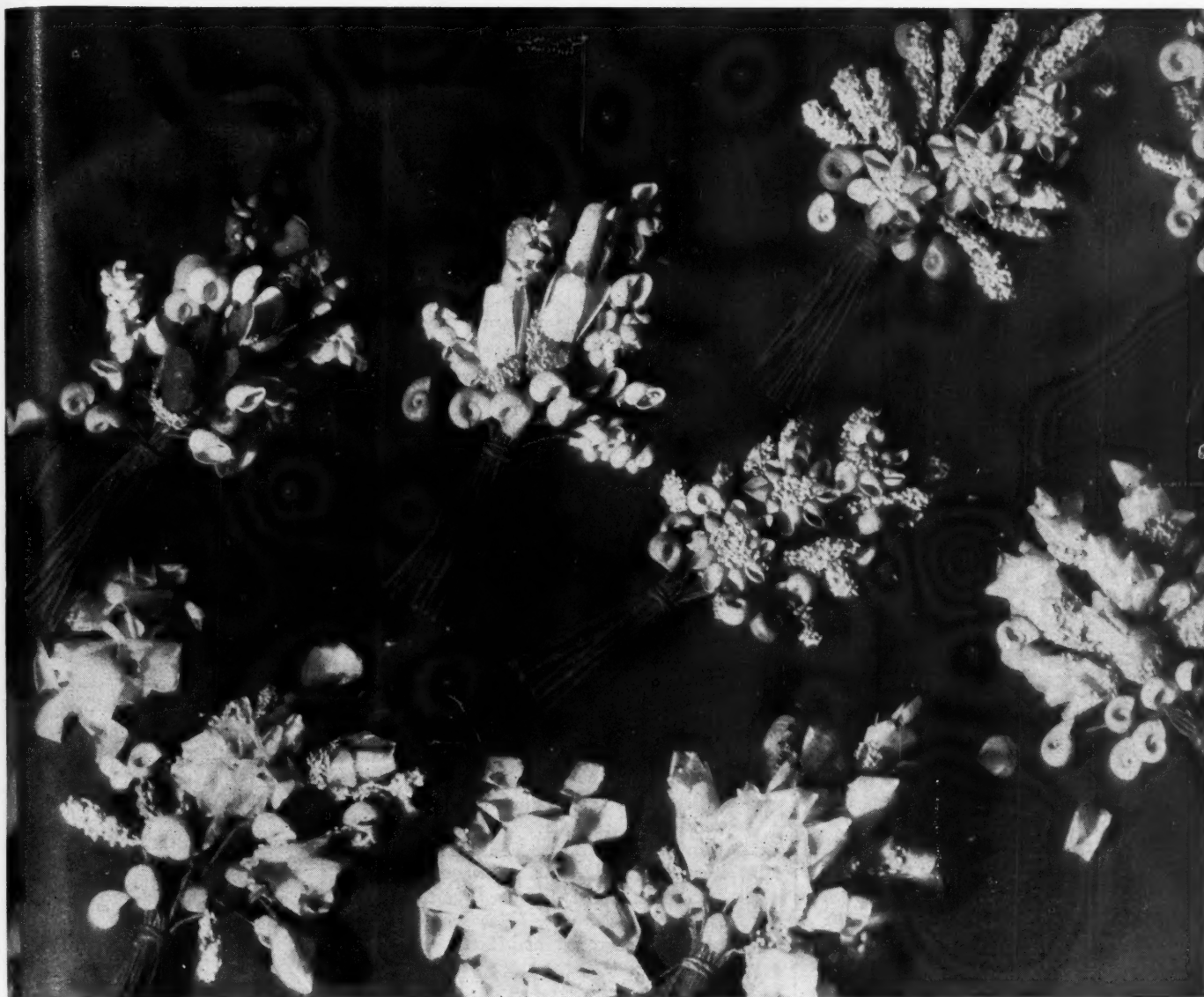
Before telling about that jewelry, perhaps I should explain about those shells. Why are great quantities of well-preserved sea shells found out in the middle of this big dry desert? Well, it is quite a story.

Hundreds of years ago when the basin that is now Coachella and Imperial valleys was a huge fresh water lake, the inhabitants

of these tiny shells lived and died along its shores. Lake Cahuilla, as scientists call it, was fed by overflow waters from the Colorado river. The ancient shore line is still plainly visible along the hills about 15 feet above mean sea level. Such spots as Travertine Point, the "Fish Traps" and Coral Reef are landmarks along the tufa-encrusted water line.

When the Colorado finally changed its delta and no longer overflowed into the basin, the lake evaporated, leaving the accumulated salts from the countless overflows in the bottom of the sink. When man accidentally let more water into the valley those salts were dissolved in the smaller lake to form what is now known as the Salton Sea.

The little shells and their larger cousins, the fresh water snails and clams, were left high and dry. It was this dryness of the desert that preserved them in almost their original condition. Some were buried under the sand and others drifted about, buffeted



These colorful corsages are made of sea shells, snails and fish scales gathered in the desert.

by vagrant winds, accumulating in swirls and eddies and bleaching in the sun.

Then the Spaniards came. They noticed the tiny shells in the sand and soil. They believed as did others later on that these shells were left by an arm of the Gulf of California that once had come this far inland. Conchologists and geologists later proved this to be wrong, but it is surprising how deeply rooted this belief is even today among people who should really know better.

The truly interesting fact is that these Spaniards named the area *El Valle de las Conchillas* (the valley of little shells). It was a good name—descriptive of a feature of the country that set it apart from the other deserts they had explored.

The tiny shells were still there however along with their larger relatives, and when the valley began to settle, men who knew about soils rejoiced that here was a good source of lime which would break down under cultivation and irrigation to sweeten the soil. While millions of these tiny organisms were absorbed by a growing agri-

culture, those around the sandy margins of the valley remained unchanged, still drifting and eddying with the winds, gleaming like tiny pearls in the sun.

Then Mrs. Favier came along. Ten years ago at Corpus Christi, Texas, she had put some sea shells together into little bouquets of artificial flowers. Making these corsages from the sea became an absorbing hobby. She experimented with cements and dyes. The flowers became more lifelike and structurally sounder. Her ideas changed almost every day and better, more decorative articles took shape under her nimble fingers. Then she moved to the desert—the last place on earth one would expect to carry on a hobby of making flowers and ornaments from shells. But the desert where she settled was "the valley of little shells." She wasn't long in discovering its potentialities. For the first time in hundreds of years someone looked at those little shells and saw a direct use for them. Mrs. Favier started to work.

New cements and new dyes had to be worked out. She was pioneering now.

Others had made shell jewelry from sea shells for years, but these were fresh water shells that had baked and bleached in a desert sun. They reacted differently. New techniques had to be employed in collecting too. The silvery clams and larger snails could be gathered by hand from the desert, just as shells are picked up from the beach, but to get quantities of the *conchillas* was another problem.

That's where the broom came in. Mrs. Favier discovered after trying a good many other things, that she could sweep up the tiny shells, sift the sand from them with a screen, and pick the larger sticks and rubbish out by hand. Then the shells had to be washed, dried, dyed the right color, and the tints set by boiling in vinegar.

It was a hobby at first. Then it became a small business, making Christmas presents for friends. These friends told others. The word got around. From corsages she branched out into matching earrings, pins, combs, necklaces and bracelets. Curio and novelty shops began to take notice and before long Mrs. Favier "the desert shell

lady" was up to her ears in business. She was approached by commercial houses to enlarge and hire help but she wisely chose to keep the project down to a personal craft.

The army came to train on the desert and the soldiers and their wives discovered the clever novelties. They mailed hundreds home to sweethearts, mothers and friends. No less personage than Mrs. George S. Patton, wife of the famous desert general, came to watch her as she worked with her shells and ordered gifts made for her friends in the east. Moving picture stars wintering in Palm Springs took up the fad. The Conchilla jewelry was a hit, and Mrs. Favier was happy for she was busy doing the thing she liked.

Later when barnacles came hitch hiking into the Salton sea on navy planes she saw another opportunity. Soon her line was enriched by barnacles off the sagebrush. When I predicted in my story (Desert Magazine, March '45) that clams might appear in the Salton sea if barnacles had become acclimated, she took me seriously and started hunting clams. She found them! Now the shells of short necked razor clams whose ancestors flew in on navy planes form other flowers in her charming bouquets.

Her last discovery was a place along the shore where commercial fishermen have been seining mullet for the fish markets. Here were bushels of the large transparent scales just waiting for her to make use of them. Her newest "flowers" are cleverly fashioned from mullet scales tinted and cemented together to look like pearl lustered roses. The scales that had curled up tight as they dried form the buds. There seems to be no limit to her imagination.

Recently I visited the home workshop of Mrs. Favier in Indio and saw her busy among her shells. She has never lost her liking for sea shells. Her room was full of them from all over the world. On one table was a group of vases decorated with shells and the "flowers" in them were sprays of sagebrush from the shore of the Salton sea coated with barnacles. They were tinted delicate pastel shades. They make lovely permanent bouquets.

In boxes around her were thousands of minute shells, cleaned and dyed to the desired tints. In dozens of tin cans were the individual "flowers" ready to be assembled into jewelry. I asked her where she had acquired the ability to blend her colors and balance her designs so well and she chuckled as she replied that her mother had been a landscape artist. It seems that mother had tried hard to get her to take up painting, too. Daughter had been dutiful in trying but finally gave up because she said she "didn't have the patience." I was struck by the irony of this as I looked at the seemingly endless numbers of tiny units ready to be painstakingly assembled. I paint landscapes for most of my living but I wouldn't have the patience to make

DESERT QUIZ

Goodbye gas coupon books—and it won't be long now before the Quiz fans are rolling over the desert getting better acquainted with the many places the Quiz editor has been writing about. In the meantime, here is another set of questions to puzzle over. You always learn something from this column, so you win even if you lose. The average person will get about 10 correct answers. A Desert Rat should score 15, and any score above that is evidence either of good luck or a very superior knowledge of the history, geography, mineralogy and people of the desert country. Answers are on page 34.

- 1—Highest mountain peak in the Southwest is in— Arizona.....
California..... Nevada..... Utah..... New Mexico.....
- 2—Pyramid Lake is located on the reservation of the—
Pima Indians..... Cahuillas..... Piutes..... Hualpais.....
- 3—Organizer of the first stage line to carry passengers and mail across the Great American desert was— Butterfield..... Banning..... Bradshaw..... Birch.....
- 4—Indian *kivas* found in ruins of the Southwest were used for— Ceremonial purposes..... Storing food..... Hiding from enemies.....
Clinics for the medicine men.....
- 5—The lowest natural unsubmerged elevation in the United States is in—
Grand Canyon..... Salton Sink..... Death Valley..... Ubehebe crater.....
- 6—The old Indian cliff dwelling known as Montezuma Castle is in—
Arizona..... California..... Utah..... New Mexico.....
- 7—San Xavier del Bac in Arizona is the name of a—
Mountain Range..... Old mission..... Postoffice..... River.....
- 8—Indian signs incised in the rocks properly are called—
Hieroglyphs..... Pictographs..... Lithographs..... Petroglyphs.....
- 9—Bisnaga is the name of a desert— Reptile..... Bird.....
Rodent..... Cactus.....
- 10—An Indian wickiup is a— Dwelling..... Type of boat.....
Basket for storing food..... Ceremonial headdress.....
- 11—In the botanical world Ocotillo is a— Palm..... Yucca.....
Cactus..... Fouquieria.....
- 12—Indians of the Pueblo San Ildefonso in New Mexico are best known for their— Basketry..... Silverwork..... Weaving..... Pottery.....
- 13—To visit the Timpanogas Cave national monument, you would go to—
Nevada..... Utah..... Arizona..... Colorado.....
- 14—The book, *The Wonders of the Colorado Desert*, was written by—
James..... Chase..... Van Dyke..... Saunders.....
- 15—Most of the iron mined in this country comes from—
Fluorite..... Bauxite..... Hematite..... Cinnabar.....
- 16—Jacob Hamblin was a— Guide for Kearny's army.....
Mormon missionary..... Mining engineer..... Stage driver.....
- 17—The native Washingtonia palm which grows on the Southwest desert is of the species— Filifera..... Gracilis..... Sonora..... Robusta.....
- 18—Boulder dam was built in— Boulder canyon..... Grand Canyon.....
Marble canyon..... Black canyon.....
- 19—"The Crossing of the Fathers" where Father Escalante and his party crossed the Colorado river in 1775 is in— Nevada..... Utah..... Arizona.....
New Mexico.....
- 20—Dellenbaugh is a name connected with— Exploration.....
Apache wars..... Mine discovery..... Archeology.....

just one of the items she turns out by the dozen every day.

I asked her how she felt about imitations of her work that are appearing on the market. She replied that it didn't alarm her—that, in fact, it is a relief. These take some of the highly commercialized pressure from her from buyers who demand hundreds of exactly the same item. It gives her more time to work on newer and more interesting things. She has sale for everything she can make. She signs each card on which she mounts her novelties and her imagination will always keep her out ahead.

I was about to leave when she remembered that she hadn't shown me her "shell

bank." She took me to another room where cartons were stacked on shelves in orderly rows clear to the ceiling. Every box was full of prepared shells. On the front of each carton she has cemented a sample of the contents so she can pick at a glance any size or color. It was a novel sight. Literally millions of shells weighing hundreds of pounds are "filed" in this manner.

She explained that she is constantly building up this reserve against the day when she would get too old and have too many kinks in her back to gather material. When that day finally comes, she doesn't propose to be caught with nothing for her busy hands to do.



New Trail to Hidden Springs

"Despite the destructive work of campers and miners, the venerable palms of Hidden Springs oasis stand strong and defiant in their remote rocky fortress. They have been burned by fires, whittled by jackknife morons; they've withstood the withering heat and the cloudburst torrents of a hundred years, and remain today a living symbol of the courage and dignity with which Nature endows the flora of the desert country."

By RANDALL HENDERSON

ENCLOSED by the almost vertical walls of a tiny tributary canyon at the southwestern base of the Orocochia massif in the Southern California desert is Hidden Springs oasis.

Thirty-nine palms, some of them scarred veterans perhaps a hundred years old, are grouped around a little spring where mountain sheep and mule-tail deer and quail and coyote come more often than white visitors.

A few of Desert's readers have been over the old prewar trail to Hidden Springs. Many more will be going there to enjoy the remote seclusion of this lovely spot in the days ahead. But the contractors now excavating a huge ditch that will bring Colorado river water to the Coachella valley have closed the old road, and it was for the purpose of scouting a new route to this palm oasis that John Hilton and I took off from Mecca to visit these springs the week that gas rationing ended.

Hidden Springs is just five miles north of the old Bradshaw stage road that connected San Bernardino with the placer gold

fields on the Colorado at La Paz 75 years ago. But if the old stage drivers or their passengers ever found the springs they left no record of it. And that is understandable—for Nature did a masterly job of concealment when she created this little oasis deep in the Orocochia foothills.

The prewar trail to Hidden Springs followed the power line—approximately the old stage route—east from Mecca a distance of 7½ miles. Then the seldom-used road swung north along the floor of Hidden Springs canyon to a parking place where the vertical walls bulge out in a gorgeously colored natural amphitheater. From this point it is a hike of less than 300 yards up a narrow tributary to the palm-fringed springs.

That was the old route to Hidden Springs. But it is changed now. Today the 25-foot earthen embankment of the Coachella branch of the All-American canal cuts squarely across this old trail at the entrance to Hidden Springs canyon.

With no one to give us directions, John and I did a lot of floundering and back-

tracking before we discovered the way around this earthen embankment. But we finally got through—along the route indicated on the accompanying map. Unless the engineers make further changes in the terrain at that point, future visitors to Hidden Springs will take the paved Box Canyon road out of Mecca, as formerly, but instead of following the power line, will take off on a newly constructed road along the south side of the canal. At a point 1.9 miles after leaving the pavement, the canal will be crossed on an overpass where the canal water is syphoned underground to permit storm waters from the Orocochia foothills to sweep over without damage to the irrigation ditch.

Having crossed the canal, the route will be along the floor of the new storm drain a distance of 2.1 miles to the mouth of Hidden Springs canyon. Hence the road to Hidden Springs will be as before. Of course this will not be a feasible route when storm water is coming down out of the hills. But Hidden Springs is not a place to go when there is the threat of rainstorms.

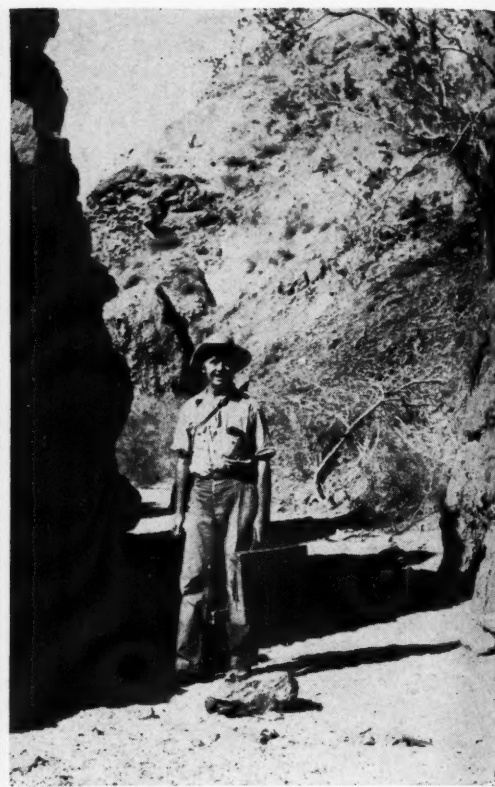
Due to recent excavations, the sand is unpacked, and John and I had to do some excavating of our own to get the car through. I wouldn't recommend this trip for a motor holiday until the dredges have completed their job, and winter rains have packed the sand. But eventually, I be-



Sheep's Hole Oasis



In Grotto Canyon



Portal to Hidden Springs

lieve the new route will be more feasible than the old trail to Hidden Springs.

Parking our car in the calico-walled amphitheater, we passed through a narrow portal of red andesite rock for the hike to the oasis. Our passage was obstructed by great blocks of conglomerate which had fallen from the cliffs above. It was necessary in one place to crawl through a narrow tunnel beneath these immense boulders. Threading our way through and around and over the chunks of conglomerate, we emerged from a slit-like passageway and

suddenly there was the oasis in full view. It is a picture that one will never forget.

John had brought his easel and brushes, and completed a working sketch of the oasis while I crawled my way up the side-walls, seeking vantage points from which to take pictures.

The water in the springs was low, as it generally is in the late summer, and recent campers at the springs, reported to be workmen from the contractor's camp, had left evidence of untidy housekeeping. Hidden Springs is a desert waterhole of more

than ordinary charm, and it deserves better protection than it has received from the Riverside County authorities.

The portal which is the entrance to the little side-canyon narrowly escaped destruction several months ago when D. L. Heyser and a party of friends from Lemon Grove, California, on an Easter Day visit to the oasis, discovered that the canal workmen had drilled holes in the andesite preparatory to blasting it for construction material. Heyser reported the facts to John Hilton. John immediately got in touch with the contractor's office and protested against the destruction of this scenic portal. He was given assurance that the blast would not be made. The drill holes may still be seen. The contractors, however, have done considerable quarrying in the walls of the main canyon just below the natural gateway. Small nodules of crystallized calcite are found in the volcanic rock broken down in the mining process.

Despite the destructive work of campers and miners, the venerable palms of Hidden Springs oasis stand strong and defiant in their remote rocky fortress. They have been burned by fires, whittled by jackknife morons; they've withstood the withering heat and the cloudburst torrents of a hundred years, and remain today a living symbol of the courage and dignity with which Nature endows the flora of the desert country.

Desert Indians knew about this watering place. An ancient trail is still visible in places, leading from Hidden Springs to Sheep's Hole palms and thence to Box

Sez Hard Rock Shorty of Death Valley . . .

By HARRY OLIVER



"Naw, we're outa eggs today," the clerk at Inferno store was telling the man at the counter.

"What's the matter with them chickens Ol' Pigsaw Bill was raisin'?" asked the customer. "We heerd over at Rhyolite that Bill's hens was supplyin' eggs for every camp in Death valley."

Just then Hard Rock Shorty came in the door. He listened to the conversation for awhile. When the subject got around again to Pigsaw Bill's chicken farm, Shorty took his pipe

out of his mouth and eyed the stranger.

"I guess you ain't been around here much lately," he said. "Pigsaw's gone back prospectin'. He ain't in the chicken business no more."

"Yep, the war put him out o' business. He lost all his hens. He was doin' all right 'til them March winds come along. Only way to keep chickens from blowin' away when them winds come is to feed 'em lead."

"Worked all right, too. But this year Bill couldn't get no buckshot."



Just 39 palms in this oasis—where wild sheep and deer and quail and coyote come more often than white visitors



John Hilton unpacked his artist's kit to make a working sketch of the oasis. Picture taken looking upstream

Canyon, three miles to the west. Another trail climbs out of the canyon just above the palms and threads its way over the ridges in the direction of the Cottonwood mountains to the north.

Hidden Springs is not the only scenic attraction in this vicinity. It is a comparatively easy hike from the parking place to Grotto canyon, the next tributary upstream on the left. Grotto is a narrow crevasse cut through sandstone walls by many thousands of years of erosion. When great blocks of stone fell from above and choked the passageway, the storm waters from the drainage basin above tunneled beneath them. With a flashlight and the help of a rope one can follow through these tunnels a quarter of a mile and emerge in the sunlight of the open canyon above.

Another side-trip is up the main can-

yon a half mile to the vari-colored rock walls of Rainbow cove. There are caves to be explored here, and when the light is right, the kodachrome photographer will find a brilliant setting for pictures.

When the sand has been packed by rains it is possible to drive up another side-canyon downstream from Hidden Springs tributary. This trail leads to Sheep's Hole oasis. George Wharton James found this palm group in 1905 when he followed an old Indian trail out of Box canyon. Only six of the original palms remain in Sheep's Hole, and generally it is necessary to dig for water, unless the coyotes have been there ahead of you and done the excavating with their paws.

The palms at Sheep's Hole and Hidden Springs, like the thousands of native palms in the Indio mudhills a few miles to the

west, probably depend for their moisture on the fault—one of the many branches of the Andreas fault system which projects across the Colorado desert of Southern California. In the mountains these fault lines may be traced by the offset lines in the rock—on the desert by vegetation watered by the artesian flow that makes its way to the surface where the earth's crust is broken.

To those who later will be following the beaten-sand trail to Hidden Springs and Sheep's Hole Oasis, I would suggest this—that these have been the watering places of many species of desert wildlife for countless ages, and since we are intruders upon their domain we at least owe it to them to keep their springs clean, their shade trees unmarred, and their security inviolate.



Hidden Springs oasis. Many of the older trees have been scarred by ancient fires, but an ample water supply keeps them vigorous

THREE NEW CALIFORNIA DESERT PARKS PROPOSED

Plans for three new state parks in the California desert region are being sponsored by separate groups in the southern part of the state.

State Senator Ralph E. Swing states that preliminary steps have been taken for a park reservation along the western shore line of Lake Havasu between Parker and Needles in western San Bernardino county. This park is designed to make available

for the public the waters of the lake for swimming, boating and fishing.

At Blythe, the Palo Verde Irrigation district has asked members of the state park commission to visit the Colorado river at that point to consider a park reservation extending along the California side of the stream.

In San Diego, the County Park commission has laid before the board of supervisors plans for a joint county park near the top of Mountain Springs grade where

RECORD STORMS DRENCH MANY DESERT AREAS

"Rain, rain, rain—if this keeps up the cows will have to wear rubber boots and every home will have to tie a boat to its back door." This was the prediction of one Utah editor who thought some suppliants had been overzealous in their prayers for rain. After many long months of desert drouth storms beginning near mid-August brought enough rain to the Southwest to satisfy a desert rat for a long time.

In Salt Lake City rain and hail storms, striking suddenly August 19, flooded gardens, basements and lower floors and broke windows; trees were toppled, traffic impeded, planes at the airport and many homes were damaged, and business interrupted—to the tune of an estimated \$500,000. Precipitation for August was the highest in 72 years.

Residents of Clifton, Arizona, dug out from under tons of rock and debris after a cloudburst storm August 17, said by old-timers to be the worst since the 1916 flood of the San Francisco river, causing an estimated damage of \$100,000. Three inches of rain and hail fell in 45 minutes.

As usual Californians relied on that good old word "Unusual" to describe the kind of weather that washed out roads, interrupted power service, damaged crops and generally soaked the desert ground in both the Mojave and Colorado deserts. At Twentynine Palms, where the average annual rainfall is two inches, 3.18 inches had fallen by August 17, almost half of all the rain that has fallen during the month of August for the past ten years.

To all those people who have been scraping A stickers from their windshields this is good news. If they like to get off the highway, they'll find good going along the sandy washes. But they won't have to leave the highway to see the wildflower display which should result from such generous early rains. In the areas where rain has fallen the ocotillos immediately brought out their cloaks of green—and no doubt many of them will be flowering during the fall months.

San Diego and Imperial counties meet on Highway 80. It was stated that San Diego owns 160 acres and Imperial county 20 acres of adjoining lands at this point and the park would be designed as a gesture of hospitality to Highway 80 travelers coming into the state over the southern route.

WOULD CREATE MONUMENT WHERE BOMB EXPLODED

Residents of Alamogordo, New Mexico, through their chamber of commerce, have petitioned the U. S. National Park service for the creation of a national monument at the site of the experimental atomic bomb explosion on July 16. The location is not far from the present White Sands national monument.

The South family is in temporary exile. Although each day they look up longingly toward their home on top of Ghost Mountain, awaiting the day when they can return, they are enjoying an Arcadian life in the peaceful little valley where they found refuge from what the Navy calls a "gunnery range." Within the sound of flowing water the children are making a garden; along the tangled paths of mesquite and wild plum they have found evidences of ancient Indian life, and beyond the green little meadow Marshal discovered luxuriant patches of tuna cactus, which he tells how to convert into a delicacy prized by Indian and Mexican.

Desert Refuge

By MARSHAL SOUTH

ACROSS this page as I write lies the sun-fretted shadow of an old tree, veteran of many a desert storm. Around its gnarled roots flows a thin silver ribbon of water. Bees cluster thirstily along the edges of the little rivulet and the sound of their continuous hum lends an added note of drowsiness to the long dun leagues of sun-steeped desert that sweep away and away into the hot haze of distance.

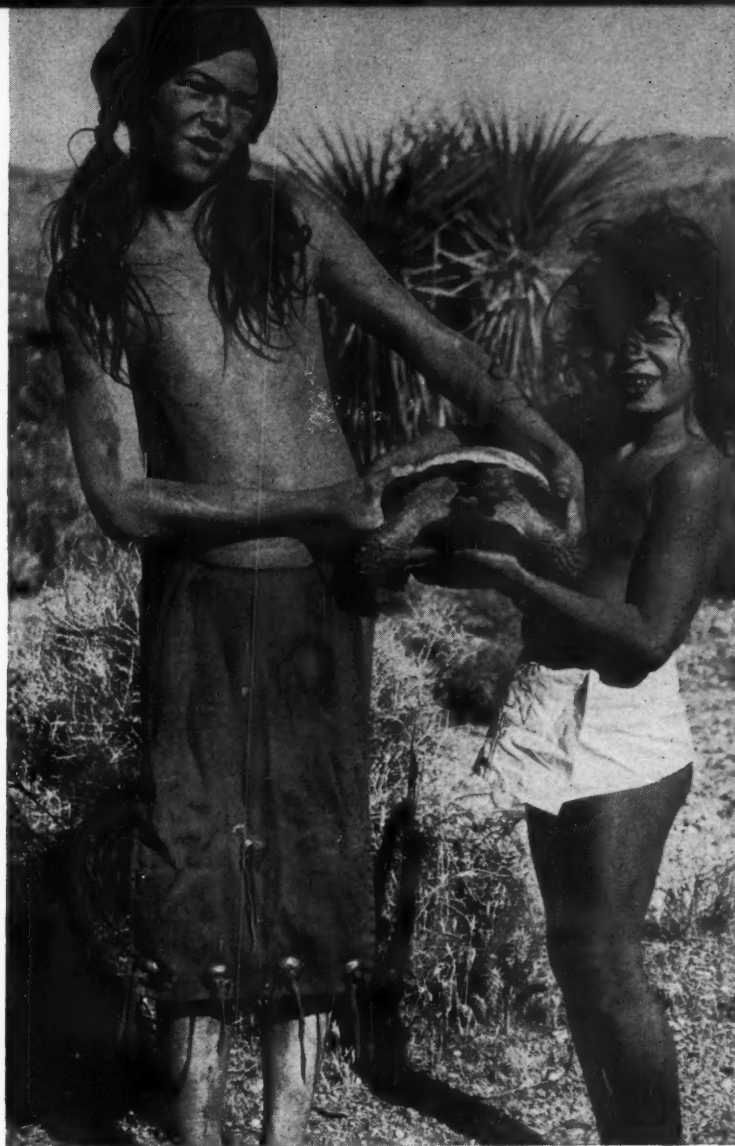
On a tiny slope of green, where the trickling of the little water run gives nourishment to some hardy grass, Rider is busy riding herd on the grazings of the four tortoises, while near by, Rudyard and Victoria are investigating a nimble red racer snake who has poked his inquisitive nose under a pile of dry wood in search of mice. An easy biscuit toss to my right a friendly roadrunner meditates in the shadow of an overhanging rock. And a few yards to the left of him a sentinel quail keeps his vigil upon the summit of a bush. There are towering thunderheads massed along the southern horizon, and it is hot. For this is summer.

But this is not Ghost Mountain, nor Yaquitepec.

For the hand of War reached out and cast its shadow over Yaquitepec—as it did over hundreds of thousands of acres of surrounding desert wilderness. "Naval Air-to-Air Gunnery Range . . . the Secretary of the Navy . . . pursuant to authority of an Act of Congress . . . extremely hazardous to you . . . your removal from your present location is considered to be necessary." . . . and so forth.

We were for the moment stunned. Like a bolt out of the blue the blow had fallen. We had had not even the remotest forewarning of its approach. And here we were, to be dispossessed and thrown out "for the duration." It was a staggering blow. And worse because it was hurry . . . hurry! Shooting was shortly to commence. Ominous red and white signs appeared suddenly upon the roads. All traffic was to be stopped. "Naval Gunnery Range" . . . Already in imagination we seemed to hear the chatter of machine guns above our beloved mountain. To see the wheeling, diving planes. To watch the raging devastation of the brush fires which are almost always caused in such maneuver areas. Our hearts chilled and ached at the thought of the fate of our ancient junipers, of all the little wild denizens of the mountain, of all the tangle of primitive desert vegetation, unmolested since the days of the vanished Indians.

And where were we to go? We did not know. Nor had we the time nor the cash to go exploring. Frantic haste was the keynote. We must get out right away. The guns were impatient to bark. Good friends, whose kindness will be long remembered, made suggestions and whole-hearted offers. But the whole world was black and had crashed about our ears. Victoria, with the



Rider and Rudyard with Mojave, one of the four desert tortoises which are sharing exile with the South family.

battered-faced "Susie" hugged tight in her arms, sat upon the edge of the bed and wept.

And then, in the dead of a moonlit night, the spirit of the Old West came speeding across the desert. Insistent hails and the signalling bark of a six-shooter drifting up from the lowlands across the rimrocks of Ghost Mountain roused us from troubled sleep. From the cliff edge we blinked answer with a flashlight. And hurrying down the long precipitous foot trail we were met by the Grand Old Spirit of the West—two of them, to be exact—in the persons of a well known westerner and his wife. They had heard of our plight and made a long night trip across the desert to offer, at considerable inconvenience to themselves, a wasteland retreat tucked away in the solitudes of desert buttes and foothills. Here, in much the same isolation and freedom as that of Ghost Mountain, we could stay until the guns had ceased to bark and we were free to return home.

And so, once again, as it so often does, the magic wand of true friendly fellowship turned darkness into light. Plans swiftly were made, and all hands at Yaquitepec fell to the toilsome, back-breaking task of carrying down the mountain such possessions as we would need in our exile. There was a discouraging quantity of them, for life at Yaquitepec has many angles which must somehow carry on despite uprootings. How many trips we made up and down that long climbing trail I do not know. No matter how ambitious one may be there is a limit to physical strength and to the amount which can be packed at one time upon one's shoulders. Everyone toiled, lugging burdens.

Even Victoria, who each time picked her way down the trail with the rest of us, her arms heavy burdened. The Navy had promised to send a truck and a work party to help us. But by the time the great powerful monster with its attendant jeep and cheerful work party arrived at the foot of Ghost Mountain, we had already carried down the bulk of our effects. Only a couple of trips up the mountain by our new gang of willing helpers, to bring down such stuff as we had found difficult to manage alone, were needed. Then, with the big truck loaded almost to capacity, we rolled away from Ghost Mountain into the shimmering desert. Life at Yaquitepec—for the duration—was over.

So, for a space, in our new desert home there is a new life, with new scenes. Our young Yaquitepecos, who uproot more easily than their oldsters, have the solace of new sights and new "adventures" to offset their spells of wistful longings for the old haunts. There is the trickling water of the spring to splash in and to exclaim over and to dam into pools with rocks and mud and sticks. Pools which soon are inhabited by fascinating little black tadpoles which lie like miniature ocean sting-rays on the sand at the bottom of the clear water. There are new friends to be made with the quail and with the roadrunners and with the jackrabbits and the snakes and with the little black and white fly-catcher who sits all day upon a tree twig above a tiny water pool and waxes fat upon venturesome yellow butterflies and gauzy winged gnats.

The youngsters have made a garden too, irrigating it carefully with buckets of water carried from the pool. The possibility of this combination of seeds with water and soil is not without its effect. And this morning Rudyard, after meditating awhile upon the miracle of a melon seed that had sprouted in his own particular plot, wandered off to the typewriter and upon a torn fragment of paper napkin—the first bit of paper that he found handy—produced the following:

*The Melon.
It comes up.
Its leaves are folded together.
It slowly opens them to great life
And its coming future.*

(At seven years of age Rudyard has not yet definitely decided whether his life work is to be that of an author, an artist or a poet.)

Yesterday we went up to the source of the spring which supplies water to the house. It lies up under the toe of encircling rocky ridges, and that characteristic atmosphere of primeval peace which is the special attribute of mountain solitudes lay over it like a healing benediction from the Great Unseen. All places, like all human beings, creatures and objects, have their own aura or atmosphere. A surrounding area of given-off vibrations which are just as real and distinct as the area of light rays emitted by a lamp or candle. There are dwelling houses that are sinister and others that are joyous. You can sense the spirit of them the moment you set eyes upon them. And the uplift or depression of them falls upon you heavily as soon as you cross the threshold. There are places where the birds sing and all the spirit of gladness seems to reign. There are others that you instinctively shudder from, pursued by uneasy dread which you cannot put into words. The roar of his soul-destroying machines has made civilized man less sensitive to these primitive vibrations, even to the point of incredulity and scoffing. Primitive peoples who live close to the soil and to nature do not mock at such vibrations. Nor do animals—who are closer, physically, to fundamental sources.

One did not need, however, to be possessed of any exceptional "sensitiveness" to appreciate the peaceful atmosphere of the little mountain rimmed bowl where our spring came bubbling its limpid waters up through a cleft in the earth. A single glance around was enough to attest the fact that the peace and soothing quiet which wrapped the place had endured through centuries. On one side of a little meadow of green, kept verdant by the

seeping waters of the spring, rose an inviting thicket of mesquite trees. While on the other, through tangles of wild plum bushes, weathered boulders and the cream-and-rust blooms of crowding buckwheat, the land heaved upward steeply, between ranks of yuccas, to the mystery of narrow canyons, dim with deep shadows and tangled greenery.

Indians had been here. Traces of them lay all about, despite the many years that had drifted by since their passing. Time covers swiftly the relics of its vanished children. Yet the storm worn guide stones and the ancient weathered metates, lying lone in the silence, told a mute story that was eloquent with the mystery of dead and vanished days. For how long had this little haven amid the hills, warmed by the desert sun and made softly musical by the breeze in the mesquites and the murmur of its bubbling water, been the gathering spot of the dusky children of the desert, before the European invader, greedy-hearted and intolerant, came marching up across the wastelands? For how many centuries had the little crystal spring at our feet been flowing? And for how many generations had the desert people gathered here to rest and to gossip and to grind the beans of the mesquite into sweet flour? The desert and the mountains are silent. The whitened stones of the metates give no answer.

There were luxuriant patches of tuna cactus along the rocky gullies. And its pink fruit, almost ripe, clustered temptingly amidst the bristling spines. So this little desert Eden provided its old-time guests with fruit also. Even to this last detail it was perfect. Were they sad to lose it—those departed ones whose abandoned grinding stones lie wistful in the silence? One suspects so. For, even though the trails of the Happy Hunting Ground be pleasant, it is difficult to imagine anything more pleasant than sitting in the cool shade of a mesquite, beside a bubbling spring, on a hot desert day and eating the delicious juicy fruit of the tuna cactus. There are some things that are not exceeded.

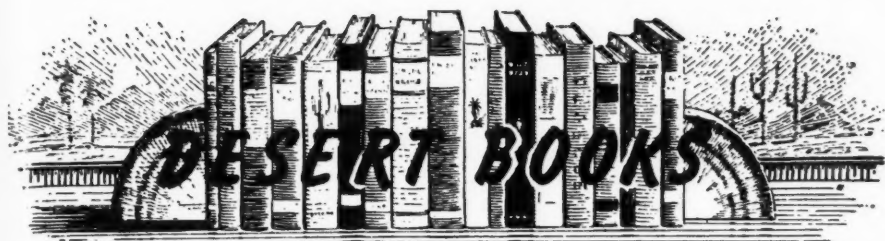
For the fruit of the tuna is something that is not sufficiently appreciated by modern residents of the Southwest. Perhaps it is because of tediousness in the picking and preparation. Our generation is not given to the taking of trouble. It prefers something that can be taken in rush order. Yet in Mexico and in other countries where the tuna (or mission cactus) flourishes or has been introduced, it is more popular. Not only are the fresh ripe fruits—rubbed clean of their growth of defensive spicules—readily obtainable in the markets, but in addition, considerable trouble is taken to prepare syrups, jellies and preserves from the crop.

Queso de tuna, or Tuna Cheese is a delicacy highly esteemed in Indian and Latin America. This thick, toothsome sweetmeat is prepared by boiling the carefully skinned ripe fruit for long periods until the syrup has been evaporated to a jelly-like semi-solid. Primitive methods of manufacture are generally used, the fruits being peeled by hand and the numerous hard seeds separated from the pulp by means of a home-made contrivance (often fashioned from a large tin can or drum) whereby a revolving wooden paddle wheel forces the soft pulp of the fruit through perforations in the metal cylinder which are too small to allow the passage of the seeds. Thus seeds and pulp are separated. The juicy product is then boiled in ollas over wood fires until it assumes the required thick consistency.

INNER POWER

*It is our hopes that goad us on,
Our vivid dreams that light our path.
May no new day to even run,
Save we have put our every breath
Unto the task of growing better.
A new phase and a higher plan
Will need no growth of outer matter,
But an enlarging inner span.*

—Tanya South



NEW BOOK OF LOST TREASURE MYTHOLOGY

New lure for the fraternity of lost treasure hunters is contained in **THUNDER GODS GOLD**, latest book on the treasure legends of the Superstition mountains of Arizona, written by Barry Storm of Tortilla Flat.

Storm's current collection of treasure myths combines the stories published in *Desert Magazine* during the past year with additional tales of legendary gold, all more or less related to the original discovery attributed to the Peralta family in 1846.

Storm's book is profusely illustrated with photographs and maps and charts—charts which lead the gold seeker on a never ending quest through and over the baffling terrain of the rugged Superstitions—but never quite revealing the point where the gold actually is concealed.

The author is a professional treasure-hunter. But he also wields a highly imaginative pen, and only the most cynical of humans will fail to respond with a quickened pulse to his vivid word pictures of fortunes that lie waiting in the hidden recesses of the Superstitions.

There is a fascination for most people in the dreaming, if not the actual quest, of buried treasure and lost mines. For the most part it is a harmless pastime.

Barry Storm may never find any of the lost loot he describes so enticingly—but he has at least made an important contribution to the Southwest's mythology of treasure-that-is-never-found.

Southwest Publishing Co., Tortilla Flat, Arizona. 156 pp. with appendix. Illustrated. \$2.75.

MIND OF THE ORIENTAL UNDER INTERNMENT

Under the sponsorship of the American Council, Institute of Pacific Relations, Commander Alexander H. Leighton of the U. S. Navy was assigned to the Japanese Relocation Center at Poston, Arizona, for social research, with the thought that lessons learned in governing the Japanese there might be of value later in dealing with the populations of occupied areas.

Leighton, a psychiatrist and anthropologist, went to Poston on the Colorado River Indian reservation at Parker, Arizona, in 1942. He witnessed the strike of the evacuees in November of that year, and remained to see the Japanese and the camp administration solve their most critical problems and eventually create a fairly smooth-functioning community.

Commander Leighton has given a detailed report of his observations at the Japanese camp in **THE GOVERNING OF MEN**. The first part of the book is a clinical account of what he observed at Poston. Part II is a presentation of principles and recommendations.

For those interested in the social sciences, this is a highly interesting and informative book, well written and rich in illustrations of how man's mind works.

Published by Princeton University Press, 1945. 367 pages, with appendix and index. Halftone illustrations. \$3.75.

TOMBSTONE LIVES AGAIN IN STORY OF BIRD CAGE

In the first novel written about Tombstone, Lynton Wright Brent has created characters and motives which should make the Arizona silver camp live up to its reputation of "the town too tough to die." Action of **THE BIRD CAGE**, published recently by Dorrance and company, New York, springs from the events which arise as a result of rancher Matt Prane's resolve to avenge the murder of his parents. In carrying out what he believed to be an honorable obligation, he already was known as a "four-man killer." Now there remained only the fifth, whose identity was as yet unknown to him.

Opening performance of a New York theatrical company at the Bird Cage theater, provides an ideal and novel framework for the author's purpose in portraying the Tombstone citizenry and for developing his plot at a rapid pace.

The premier was given in December, 1881, just a few years after Ed Schieffelin discovered the rich silver ore of which he said, "Here is my tombstone," and only a few months after the climax of the Earp-Clanton feud at the O K Corral. But the dramatic talents of the company were not the first concern of many in the audience of tough cowboys, gamblers, gun-slingers, miners—and Wyatt Earp and Doc Holliday. For before the curtain rose two men had been killed in quarrels over Donna Drew, leading lady of the red-gold hair and jade-green eyes. Unbelievably beautiful and talented (she was author-producer-star of the performance), she was to be the innocent cause of more tragedies before the end of the 330 pages.

Its well-known historical setting, its variety of characters, its tense dramatic moments and extravagant action should make good movie material. \$2.50.

BOOK BRIEFS . . .

Most recent of the books on Mormons is Richard Scowcroft's *Children of the Covenant*, published by Houghton Mifflin company, New York. The author is a native of Ogden, Utah, graduate of University of Utah and now on English staff at Harvard. It is a novel not about Mormonism as such but about 20th century people conditioned by their Mormon background.

Current issue of *American Fern Journal*, includes an article, "The Lure of Arizona Ferns" written by Miss Alice Eastwood, curator of botany, California Academy of Sciences, Golden Gate Park, San Francisco. She explains the surprising variety of Arizona's ferns by the fact that the area is the geological meeting place of the Rocky Mountain region, Colorado desert and Mexico.

Wallace Stegner, who wrote *Mormon Country* and *Big Rock Candy Mountain*, published by Duell, Sloan and Pearce in the American Folkway Series, has written in collaboration with editors of *Look* a new type of photo-text book, *One Nation*. It attempts, says its publisher Houghton Mifflin company, to indicate the economic, social and religious reasons behind discrimination and the possible means of bettering the situation by creating the true tolerance on which the future of our country depends.

Popular novelist Faith Baldwin's new book has a desert setting. In her *Arizona Star*, published by Farrar and Rinehart, she shows a sincere appreciation of Arizona's ranch life and desert landscape which she uses as an effective and vivid background for her character novel, focused on Emily Chester Grafin, domineering, unscrupulous matriarch.

Arizona Quarterly, a new journal of literature, history and folklore published by University of Arizona, Tucson, is receiving favorable comment in national periodicals. Its editorial staff includes Frederick Cromwell, university librarian, Harry Behn, Frances Gillmor, Howard A. Hubbard and Emil W. Haury. Frank C. Lockwood is honorary editor.

Van Tilburg Clark, whose *Ox-Bow Incident* brought him national recognition, used Reno as the setting for his new novel, *The City of Trembling Leaves*, published by Random House, New York. The story of youth and its idealistic search for perfection are far removed from the stark realism of the former book.

W. Thetford LeViness, a New Mexico writer, has published through the Rydal Press, Santa Fe, a bicentennial tribute to William Hayley, eighteenth century poet, essayist, dramatist, novelist and biographer. The 20-page brochure is illustrated by New Mexico artist Alfred Morang. \$1.00.

LETTERS...

They know how to catch 'em . . .
Riverside, California

Dear Mr. Henderson:

We especially enjoyed your contributions to the August number as we have had the pleasure of meeting most of the people you mentioned—the Richardsons, Wilsons, Gouldings and Mr. Nevills.

So far we have found your magazine very accurate, but this time we wish to correct a statement you made—the one about Oak Creek. It is all you say as to beauty, but it also has plenty of trout. We caught as many as we could use the five days we were there, as did many others in our camp. And they were 10 to 15 inches long. So please correct that part.

We are glad to learn that Rainbow lodge is to be reopened next season. We were there in '39, and will be going back again when this is over.

GLENN & JOSEPHINE BLAKE

We're Needing Back Copies of Desert

To meet the constant demand for old files of Desert Magazine, the following copies are wanted. They may be sent direct to Desert Magazine office or delivered to Harrison Magazine & Book store at 7912 S. Vermont St., Los Angeles, and the following prices will be paid for issues in good condition.

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A very limited number of complete files of Desert are now available in **permanent loose-leaf binders**, and will be shipped prepaid at the following rates:

Volume 1, Nov.'37 to Oct.'38	\$12.00
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Volume 3	10.00
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Volume 5	5.00
Volume 6	4.00
Volume 7	4.00
Complete set of 7 volumes	50.00

The magazines in these volumes are not all new, but they are guaranteed to be complete copies in good condition.

DESERT MAGAZINE
EL CENTRO, CALIFORNIA

Reward for the Artist . . .
Somerton, Arizona

Dear Sirs:

Randall Henderson's remark in your September issue that the manufacture of Indian style jewelry on a factory basis brings him a feeling of regret, is much appreciated. He further speaks of the dilemma of the Indian craftsman, whether he should produce his handwork at starvation wages, or sacrifice art in the interest of a decent income.

There has been a market developed for imitation Indian jewelry, and the product offered exhibits every regrettable side of such debasement. One might point out that not only the Indian and his chances of making a living are involved in the factory manufacture of jewelry, but that also the public deserves to be offered a superior product—a truly beautiful article which has not departed from the spirit of the native handwork designs.

Why not honor the Indian craftsman by treating him with the same consideration that is given artists in other fields? The best and most beautiful designs should be chosen for reproduction. The manufacturers should secure advice from competent authorities as to the designs most worthy.

Once the design is selected, credit should be given to the designer, both by stamping the metal with his signature, and by a royalty arrangement. The materials used should be the best—real silver, real stones. The product should be offered at a price that adequately covers the costs.

DOROTHY W. ALLEN

Giant of the Catsclaw Family . . .
Los Angeles, California

Dear Friends:

December '44 quiz states that catsclaw is a bush. Well, about a hundred yards back of Hudson's place, a few miles east of The Pipes, north of Morongo valley, is a catsclaw some 40 feet high. At the ground the circumference of the trunk is 116 inches and at the crotch about 3 feet up, the branches measure 81 and 59 inches around. Some bush!

GEO. M. GOODELL

Friend George: Frankly, I am somewhat skeptical regarding that 40-foot catsclaw. That would be as odd a freak as a 100-foot saguaro. It is easy to confuse catsclaw with ironwood. I once made this mistake myself—and then learned to distinguish young ironwood from catsclaw by their thorns. On ironwood they come in pairs like a rattler's fangs. I hope you'll look that tree over again when you have an opportunity—and let me know your conclusion.

—R. H.

Lost Art in Cooking . . .
Las Vegas, Nevada

Desert editor:

In answer to Mrs. Nelson's inquiry about camp cooking in dutch ovens and pits, I am glad to pass along the method I learned in Wyoming 40 years ago.

Use a real dutch oven if possible—with legs and a top with cupped rim. The harder the wood the better, but with more care, any wood around camp will do.

Lay the oven right side up and the lid under side down on the coals to heat. Biscuit dough is put direct in the oven. Pie, cake or light bread which is already raised are best left in a pie plate and set inside the hot oven.

Pull out not too many coals to set the oven on, and fill the top of the lid. Have a pot hook, either iron or made from a limb, and after a few minutes lift the lid. If it is too hot, push off some of the coals, if not hot enough, add more.

For pit cooking, dig a hole a foot deeper than the kettle or oven. Rake in six inches of coals. Put more coals on the lid and cover with earth and forget it. This will stay hot all day. This is for beans, meat and vegetables.

The automatic electric stove might be more convenient, but the food lacks a lot of fine flavor. Dutch oven and pit cooking are becoming lost arts. They take more work, but are worth it.

DORA TUCKER

NOTE—Mrs. Nelson's letter has brought much information on the subject of dutch oven cooking, and more details will be published in future issues of Desert—Editor.

Aleutian Prospecting . . .
The Aleutians

Dear Sir:

Desert Magazine is coming through regularly and on time. Believe me it helps pass these lonely Aleutian hours.

I purchased a Mineralight through one of your advertisers, and it has proved a very handy instrument, as I have located some fluorescent rocks in my spare time.

CPL. DICK SHUTLER

On the Subject of Desert Rats . . .
Wilmar, California

To the Editor:

Some time ago one of your readers suggested changing the expression "Desert Rat." I never liked it very much myself. So how about this for a new name which I think most desert folks would like? I suggest "Desert Dab."

According to Webster, Dab means expert, etc. I am not a Desert Dab myself, but I would be if I could find some way to make a living out there.

J. H. HUNTOON

THE DESERT MAGAZINE

HERE AND THERE... on the Desert

ARIZONA

Hopis Migrate From Mesas . . .

POSTON—Some 90 Hopi Indians comprising 16 families were scheduled to move from their mesa homes in northern Arizona to the Colorado River Japanese relocation center September 1, it was announced in August by Project Director Duncan Mills. Although remainder of the Japanese will not leave until December 1, the early date was set so Indians could start fall planting. Others expected to move later to the center, which is on the Colorado River Indian reservation. Approximately 3200 acres of desert land have been cleared and 2500 acres brought under cultivation in the three years the center has been open. An extensive irrigation system has been installed, most of the work having been done by the evacuees.

Salt River Power Supply Upped . . .

PHOENIX—Electric power now supplied by Parker dam will be supplemented by purchase of 35,000,000 kilowatt hours of energy from Southern California Edison company and Los Angeles Water and Power department, it was announced in August by Salt River Valley Water Users' association.

Climbers Scale Vishnu Temple . . .

FLAGSTAFF—M. D. Clubb, Oklahoma A. & M. college faculty member, and his son Roger scaled Vishnu Temple, one of the great mountain peaks within Grand Canyon, according to Dr. H. C. Bryant, park superintendent, in July. They found no evidence of a previous ascent; only forms of life found were a few lizards and lichens. They also scaled Wotan's Throne, which an American Museum party climbed in 1937.

Mexican Birds Irk Anglers . . .

GLOBE—Arizonans believe in being Good Neighbors, but sportsmen here wish Mexico would keep her cormorants at home. The birds are reported to be taking priority on the bass in San Carlos lake, the large artificial reservoir behind Coolidge dam in the Gila river. They already had been a nuisance but as soon as 18,000 fingerling recently were planted, hundreds more flew in from the Gulf of California as if some avian telegraph had made announcement of fine fishing. Lake is on the Apache reservation, but hunters are being registered to get rid of the bass destroyers. Although they are called "Mexican cormorants" local authorities are not sure of their species.

Phoenix metropolitan population is estimated at 165,000, a growth of 136,000 in past 25 years.

Survey completed July 1 showed only 69,000 bee colonies in state compared with 77,000 a year ago. Unusually cold windy spring and subsequent drouth starved almost a tenth of the honey bees which depend on wild flowers, mesquite and catclaw.

James D. Walkup, veteran of World War I and II and former secretary of Flagstaff chamber of commerce, was appointed to chamber post again August 1.

Arizona has declared closed seasons on elk, wild turkey, tree squirrels, antelope. They're saving elk for the veterans "when they get home."

CALIFORNIA

Sidewinders Are "Sissies" . . .

INDIO—Sidewinders may be deadly to others, but they're just sissies to S. C. (Tiny) Perry, picturesque owner of 1000 Palms Cafe. He stepped on a sidewinder recently. Snake, resentful of Tiny's 260 pounds, bit him on the ankle. Tiny stopped long enough to kill the snake, then applied his own first aid—a vigorous scratch with his thumb nail, a bit of squeezing, a generous application of chewing tobacco. Tiny has been bitten by gila monsters and once by a copperhead while riding herd on the King ranch in Texas. He says he did a bit of cutting then, but these little California sidewinders are "just sissies."

DesArtations:

Reason I'm writin' ads fer the DesArt Shop is becuz the folks said they wanted the best dope on the desert. So if you want the best enlargements from yer kodak negatives send 'em to the address below an' they'll make 3 of 'em fer a buck, size 5x7; 'er if you want 'em 8x10 send two bucks. In slick 'er dull finish, ready fer framing. They'll make 'em from just the part you want if you say so. Prompt service, consistent with good quality.

Azever, Yourn
Art of the Desert
DesArt Shop, 329 College,
Santa Fe, N. M.

Water Companies Merged . . .

TWENTYNINE PALMS—It was announced in August that the three local water companies — Twentynine Palms Water company, Twentynine Palms Mutual Water company and Desert Homes Mutual Water company—had been purchased and will be operated as a public utility system by C. W. Faries and Leonard Wikoff. Wikoff, an engineer, established the original power plant serving this community.

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Date Disease to be Studied . . .

INDIO—An appropriation of \$20,480 has been made to State Department of Agriculture to make a survey of commercial date palms for determination of presence of Omphalia root rot. This disease has been investigated by Dr. Donald E. Bliss of the Citrus Experiment Station, Riverside, who made a report in March 1944 in University of California's publication *Hilgardia*. According to Bliss the rot is the main disease of the date palm, but fortunately is still limited in its distribution. The survey will consist of a search for locations of the disease, which will indicate where healthy offshoots may be obtained by growers. Infected offshoots carry the disease.

New Spiders Identified . . .

TWENTYNINE PALMS—Seven new species of spiders and a new genus of sol-pugid have been taken from this area by J. H. Branch. Verification was made by Dr. W. J. Gertsch of American Museum of Natural History, New York. Mr. Branch, who has been doing research for the museum here for several months, believes that the early naturalists who described most of the fauna of California did not pass this way, and for that reason it probably will be found that this area is very rich in new species of other groups besides spiders. New species accredited to Mr. Branch are plectreurus, neoanagraphis, sypira bogerti, zelotes, oxyopes, titanebo and habronattus.

Radio Station For Indio . . .

INDIO—KREO will be the call letters of a radio station here, to be affiliated with the American Broadcasting company network, according to report to Indio News in August. Station will be located on a 40-acre tract on Calhoun street just south of Palm Springs highway, recently purchased by Broadcasting Corporation of America, operators of KPRO, Riverside-San Bernardino station. Present plans, dependent upon availability of labor, are to have station on 18-hour schedule before Christmas. Another station, KROP at Brawley, is planned for next spring.

NEVADA

Cowboys and Prospectors Find Jap "Puff Balls" . . .

YERINGTON—The first of Hirohito's "puff balls" discovered in Nevada, it is now revealed, was found on the Wilson ranch near here. Cowboys, unable to identify it, tied it to an automobile and after towing it to a garage, attempted to notify authorities by letter. Receiving no reply, they deflated the bag, used the white rubberized silk to cover a haystack. Later when state police identified it as a Jap balloon, two demolition bombs were found hidden at its base. Last of the balloons located was found by an aged prospector who "thought the government had lost something" and delivered it by burro from the hills near Elko last May 10.

Scientists to Seek Relics . . .

BOULDER CITY—Archeologists of national park service, according to Associated Press, say research of prehistoric human and animal life in Las Vegas-Boulder dam area will be speeded by government's decision to complete Davis dam, 50 miles south of here. Evidence of a human race greatly antedating the Christian era has been unearthed there, and scores of pueblo ruins and campsites in Davis dam section containing similar early evidences will be covered with water when the dam is finished. Department of interior has selected 15 of these prehistoric archeological sites for exploration. They will be sealed, entered and excavated before they are flooded by the reservoir. Discoveries will be added to government exhibit at Boulder City.

NEW MEXICO

Ruins Unhurt by Bomb Tests . . .

SANTA FE—Atomic bomb experiments at Los Alamos laboratories did no damage to nearby prehistoric cliff dwellings in Bandelier national monument, national park service reports. Part of the lands used in the bomb tests are within the monument. Park officials said that Interior Secretary Ickes consented to the experiments but insisted that every effort be made to protect the prehistoric treasures.

The Desert Trading Post

*Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—
Actually about one-half cent per thousand readers.*

MISCELLANEOUS

TUNA (CACTUS APPLES), the delicious fruit of the Prickly Pear Cactus. Large, luscious, ripe. Send \$1.00 for carton, mailed postpaid in USA. We'll enclose instructions for handling fruit. Emmy B. Smith, Box 164, Roscoe, California.

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PETRIFIED PALM rock specimens and nearly every kind of cut stones both precious and semi-precious. Still have good selection of Reservation hand-hammered silver, Navajo rugs, old Indian baskets that are worthwhile and other artifacts. We do not have a catalog. Daniels Indian Trading Post, 441 W. Foothill Blvd., Fontana, California.

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SOUTHWEST BOOK BARGAINS, postpaid. One-Smoke Stories, by Mary Austin, \$1.29. Brothers of Light (Penitentes of the Southwest), Henderson, \$1.49. Rainbow Bridge, Bernheimer, \$1.39. Edge of Taos Desert, Lohan, \$1.89. Spanish Pioneers and California Missions, Lummis, \$1.89. These are all new books. We handle books of all publishers and welcome inquiries. New Mexico Book Store, 511 West Central Ave., Albuquerque, New Mexico.

GOLD PANNING for profit, healthy, fascinating, outdoor occupation. Beginners' big instruction book, blueprints, photograph — \$1.00. Desert Jim, 208 Delmar, Vallejo, Calif.

ANTIQUES and Desert Oddities. Desert Tea in natural form, large bundle \$1.00. Grail Fuller Ranch (Center of the Mojave), Daggett, Calif.

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EL CENTRO — — — — CALIFORNIA

Indians Inspire Dress Designer . . .

GALLUP—Searching for stimulating ideas for American designs in dress fabrics, Mrs. Ethel Eaton, head of a New York designing firm, studied arts and crafts of Southwestern Indians at the August Inter-Tribal Ceremonial here. Declaring she was intrigued with the possibilities in velvet blouses of Navajo women, she said, "I feel that both the silver jewelry and the textiles of the Indians warrant their adaptation to modern dress designs. We have for too long relied on France to provide all our styles. It is high time for us to realize what we have right here in America and set the pace in styles ourselves."

White Sands on the March . . .

ALAMOGORDO—The famous White Sands are creeping toward Alamogordo, according to Dr. L. A. Nelson, geology professor. The sands which are 35 miles long, 15 miles wide and average 20 feet high, have 14 miles to go to reach the city. But residents won't have to worry for a while, Dr. Nelson said, for the sands are traveling one foot per year.

Famed Art Objects on Exhibit . . .

ALBUQUERQUE—Priceless collection of art objects and historical items gathered from all over the world by Fred Harvey and his associates soon will be on display in the Indian room at Santa Fe railway depot here. Nothing is for sale, display is to be free to public. Handfuls of fiery Mexican opals "as large as hen's eggs," small chests of other semi-precious jewels, buckskin garments as soft as velvet, prehistoric Indian pottery and baskets and the gamut of Spanish and Mexican church art will be included. One alcove will resemble a Navajo hogan where Indians will weave and do silverwork. Value of exhibit is estimated at more than a million dollars.

Bomb Field to be Permanent . . .

LAS CRUCES—It was reported August 24 that war department would continue construction at the unfinished White Sands proving grounds, which will be maintained on permanent basis for testing rocket bombs. Lt. Col. Harold R. Turner, commanding officer, announced that a large supply of parts from German V-2 rocket bombs already had been delivered by rail for transfer to White Sands.

Cattle shipments from New Mexico in July totaled 44,840 as compared with 8728 in the same month last year.

Plans have been drawn to construct 100 rooms and a number of apartments as an addition to Hilton Hotel, in Albuquerque.

Of the 217 fires which occurred in national forests of New Mexico from January 1 through July 10, 78 were listed as man-caused, principally through carelessness of campers. Total of 8838 acres were burned.

UTAH

Cut-off Road Completed . . .

OGDEN—The \$60,000 overpass across railroad tracks at Hot Springs on US highway 91 north of here was opened to traffic in August, marking completion of Nye's corner-Hot Springs cutoff highway which gives heavy traffic easy access to West Ogden industrial section. It permits north-south traffic to follow a direct route from northern Utah to Salt Lake City and southern points. It is one mile shorter than alternate route of US 91, which passes through Ogden.

Record Fruit Crop Forecast . . .

LOGAN—Utah's 1945 fruit crop is expected to be one of the best all-around crops in history, with increases forecast for cherries, apricots, peaches, pears and grapes, with decline in apples. Completed sweet cherry crop was 225 cars, compared with 152 in 1944. Total increase is estimated at 125 per cent of 1944 crops.

Japanese and Japanese-Americans were scheduled to evacuate Topaz relocation center in Millard county by November 1. Center once contained 8500 evacuees.

DESERT BINDERS for the new year

With this issue Desert Magazine completes its 8th year—Volume 8. For Desert readers who are keeping permanent files, we can now supply loose-leaf gold-embossed binders for the new volume—No. 9.

Also, we still have an ample supply of Volume 8, and all preceding numbers—1, 2, 3, 4, 5, 6, 7 and unnumbered binders.

\$1.25 Postpaid

DESERT MAGAZINE

El Centro, California



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GHOST TOWN NEWS
BUENA PARK, CALIF.

Mines and Mining . .

San Francisco, California . . .

Uranium, basic element of atomic bombs, is revealed by Walter W. Bradley, state mineralogist, to be found in at least three locations in California. "Crystals of uraninite or pitchblende (a complex uranite of lead and rare earth) occur in pockets with gold and quartz at the Rathgeb mine near San Andreas, Calaveras county," says Bradley. "Autunite, a uranium and calcium phosphate, occurs in Summit Diggings, near Randsburg, Kern county. Some specimens, associated with torbernite, a phosphate of uranium and copper, have been found in the northeasterly portion of San Bernardino county, but there has been no commercial production from any of these occurrences." According to Bradley about 95 per cent of known uranium ore comes from El Dorado mines at Great Bear Lake, Northwest Territory, Canada, and Union Miniere du Haut Katanga in Belgian Congo.

Winnemucca, Nevada . . .

Withheld until after atomic bomb was announced, it is revealed that government mining engineers for the past two years have been investigating extent of uranium deposits in Lyon county.

Albuquerque, New Mexico . . .

New Mexico Miners and Prospectors association has opened new headquarters in Barnett building, Albuquerque, under direction of R. H. Downer, secretary. Headquarters formerly was at Silver City.

Winnemucca, Nevada . . .

Slower airplanes and faster color films are expected to play a large part in mining discoveries, particularly in the western states, according to the Mining Record. Aerogeology's chief use is not discovery of actual deposits but to give geologist the lay of the land, to indicate presence of likely formations for closer exploration on foot. From the air, bands and streaks of soil shades often suggest presence of rock of different kinds far beneath. Wartime development of color film with speeds undreamed of even in 1940 "will add to the stature of the science of aerogeology. Geologists reason that after study of the color photographs of the future, color and gradations in vegetation or soil may fairly shriek to their trained senses of a mineral deposit or the presence of a formation traditionally associated with a mineralized area underneath."

Bishop, California . . .

Six companies and 10 of 11 executives charged with conspiring to violate Sherman anti-trust law by monopolizing world supply of borax were fined \$146,000 August 16 by Federal Judge A. F. St. Sure in San Francisco. (Ninety-five per cent of world's borax is produced in California.) California properties of two British companies, Borax Consolidated Ltd. and Borax & Chemicals Ltd., London, were ordered sold by a receiver. The British group, which includes Pacific Coast Borax company, was ordered to terminate litigation with government over ownership of Little Placer claim in Kern county, valued at \$7,000,000, one of world's richest kernite deposits. Title reverts to U.S. Pacific Borax also must sell Western Borax mine in Kern county, for which it paid \$700,000. Borax Consolidated must sell Thompson mine in Death Valley, for which it paid \$100,000. US companies involved are: United States Borax company, Los Angeles, American Potash & Chemical corporation, New York, Three Elephant Borax corporation, New York.

Socorro, New Mexico . . .

Eugene C. Anderson, formerly with International Minerals and Chemical corporation at Carlsbad, has been named director of New Mexico bureau of mines and mineral resources, succeeding A. D. Hahn.

Imperial Irrigation District Power is . . .

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BIG — Its Power Lines Keep Farms and Businesses running in an Area as Big as THE WHOLE STATE OF MARYLAND!

Of course, the District's public power serves all of Imperial Valley, greatest irrigated empire in the Western hemisphere, but others, too, depend upon the electrical energy the people of Imperial Valley have made possible. These include

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Fertile Date Orchards — Vegetable Farms — Pumping Plants — Business and Industry — All Depend on District Lines for Power.

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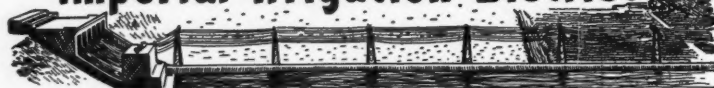
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Growing, thriving Mexicali, Baja California—home of countless new industries and homes, farms and businesses—It, too, depends on District power.

BIG — That's Part of the Reason Imperial Irrigation District's Power System Is Paying for Itself — IT'S GOOD BUSINESS.

Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal

GEMS AND MINERALS

ARTHUR L. EATON, Editor

APPEAL FOR SPECIMENS TO RESTORE DESTROYED MUSEUM

An appeal, sponsored by Council of the Mineralogical Society of America, is being made to mineralogists of America and Canada for mineral specimens for the mineralogical museum of University of Liege, Belgium, which was destroyed by fire September 7, 1944, the day the Germans were leaving the city. Three kinds of specimens are needed: Display, teaching, research. Each specimen should be carefully wrapped with its original label signed by donor. Catalog filing card (3"x5"), white, preferably unruled and punched, should be typed, giving: name of mineral, locality, size of specimen in centimeters, short description of features illustrated, name and address of donor.

Specimens should be sent prepaid to one of the curators: Charles R. Toothaker, The Commercial Museum, 34 St., below Spruce, Philadelphia 4, Penn., or Dr. V. Ben Meen, Director, Royal Ontario Museum of Mineralogy, Toronto 5 Canada. Corresponding filing cards should be mailed separately to the same address.

In the improbable event that too many specimens of one species are received, the committee will use its discretion and offer such samples to other devastated museums where they will do the most good or, if the donor desires, will return them to him by express, C.O.D.

770-CARAT DIAMOND TO BE SOLD IN THE ROUGH

The world's biggest uncut diamond, about the size of a chicken egg, has been brought to Britain from the British colony of Sierra Leone in West Africa, where it was found in January by a native workman.

The gem, which weighs 770 carats, is believed to be the largest ever found in an alluvial deposit and is the biggest diamond of gem quality in the world.

The Sierra Leone Selection Trust, owners, have decided not to cut the stone, but to sell it in the rough.

Find Specimens of Bassanite

A rare prize for those persons who collect gypsum specimens in Imperial county, California, is bassanite. Dana reports this rare type of gypsum as found only in lava deposits from Mt. Vesuvius, Italy, but recently, several specimens have been found in the Colorado desert. Chemically, bassanite (notice the spelling) is the same as gypsum, or really a form between gypsum and anhydrite. The chief difference lies in the crystal.

A fluorescent display, opened in June at El Mono hotel, Leevining, California, is being shown daily by Mr. and Mrs. George I. Williams, proprietors, who traveled for years throughout the United States lecturing on fluorescence and minerals. The exhibit includes what are described as some of the largest specimens of fluorescent responsive minerals ever collected and is the same exhibit which has been shown at universities, fairs and special groups. The public is invited free, large groups being especially welcome.

ROCKHOUND PHOTOGRAPHS PAN-AMERICAN HIGHWAY

G. Haven Bishop spoke on the Pan-American highway at August 16 meeting of Los Angeles Mineralogical society. For the past two and a half years Mr. Bishop, who is a member of LAMS, has been official photographer with US army engineers who are building the highway. His talk was illustrated with an extensive series of fine color pictures, vividly portraying the difficulties and hazards of highway construction in regions where often the only roads are deeply rutted ox-cart trails, where elevations range from sea level to 11,000 feet, and where a long rainy season leaves only about three work months.

Many of the pictures showed geology of the Central American countries and scenic views of tropic vegetation and quaint villages. He believes it will be between two and three years before the highway will be completed. By then "we will probably all be trying out new jalopies and the chances are many of us will be getting acquainted with our good neighbors along the Pan-American highways."

Test for Lead . . .

Take a large piece of the ore and scrape a small cavity in the top. Place a few drops of concentrated nitric acid in the cavity. Drop in two or three crystals of potassium iodide and allow to dissolve. Then, with a medicine dropper and distilled water drop by drop allow the mixture to run and spread over the ore. Whenever it comes in contact with lead, it will quickly form bright yellow iodide. The color is its identification. This can be varied. Powder a small quantity of ore and place in a test tube. Add enough nitric acid to cover and drop in the potassium iodide crystals. Stir thoroughly and add a few drops of distilled water. If lead is present, the mixture takes on a distinctly yellowish tinge.

Mojave Desert Gem and Mineral Shop . . .

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One Mile West of Yermo, Calif.
E. W. SHAW, P. O. Box 363, Yermo, Calif.

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(Spanish for Beautiful)

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It is hard, about 8, opaque, translucent and transparent. The colors are a delicate baby to deep blue; light blue-green to very deep; jade green to emerald. The variables run from a seaweed, emerald or blue-green background with clear, bright yellow, blood to cinnabar red and white spots. The figurines or scenics have a definite picture; some water pools, sunlight, streams, trees, etc.

For the time being this material will not be sold in bulk pieces or wholesale, nor cheapened. We suggest ordering three 1 inch blanks, which will give some idea of their range. These will have light polish on one side to quickly show their beauty.

Opaque, with small translucent or transparent spot . . . \$ 3.00
Translucent with figures . . . 5.00
Transparent, mostly solid color—our finest . . . 10.00
A large round cut and polished brooch or bracelet stone, selected for beauty and quality . . . 15.00

Prices include luxury tax and postage. Sold on strictly money back guarantee if not satisfied.

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Plus 20% Excise Tax and 2 1/2% Sales Tax

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WASHINGTON PETRIFIED WOODS. Many color combinations and varieties. Six slabs, One dollar plus postage. Over twelve square inches. State preference. Cabochons or specimens. Money back if dissatisfied. Full log sections available. Native Gems, 111 No. Tacoma Ave., Tacoma 3, Washington.

FRANKLIN, N. J., COLLECTION. 10 excellent specimens, several highly fluorescent. Polyadelphite, Willemite, Rhodonite, Rhodochrosite, Norbergite, Mangan Calcite, Salmon Colored Calcite, Franklinite, Zincite, Graphite in Limestone, etc. About 2x2 in.—\$4.00 postpaid. H. STILLWELL & SON, Rockville Centre, N. Y.

MY COLLECTION of cut stones and uncut. 65 hearts, 20 blanks, 220 cabochons and facets. Facet cutting machine and complete heavy duty cutting equipment including 5 motors. Full price \$800.00. R. H. Justice, 343 West 87 St., Los Angeles 3, Calif.

FOR SALE—My private collection of mineral specimens. For particulars write: R. E. Goodell, 291 Canyon Road, Salt Lake City 3, Utah.

ATTENTION ROCK CUTTERS: Citrine Quartz \$2.00 per ounce. Assortment of 12 cabochon blanks \$1.50. Blanks of green Wyoming jade 50 cents. Black Wyoming jade 35 cents. Sterling silver earring backs \$3.00 per doz. Cut and polished Star Sapphires \$2.50 per carat (stones are 2 to 7 carats). Cut and polished black Wyoming jade 12x16 mm size \$1.00. Please include luxury tax on earring backs and cut stones. de Marrienne and Charles, 420 No. La Cienega Blvd., Los Angeles 36, Calif.

PURPLE "X" 250 watt \$1.37 each, includes all tax, shipped postpaid. Fluoresces some minerals and gems. Humphreys Laboratories, 240 Claiborne, Long Beach 7, Calif.

FLUORITE CLEAVAGE OCTAHEDRONS. Very attractive and most of them fluoresce under Wonderlite bulb. 6 specimens 1/2 in. to 1 in. tip to tip in various colors yellow, green, blue, purple, colorless, etc., \$1.60 postpaid. 12 extra selected specimens 1/2 in. to 1 1/2 in. tip to tip \$4.25 postpaid. A very few larger specimens up to 2 1/2 in. at special prices. H. STILLWELL & SON, Rockville Centre, N.Y.

WANTED: TO BUY, sell and exchange specimens outstandingly rare and beautiful. Sam Parker, 2160 East Van Buren, Phoenix, Ariz.

SORRY FOLKS, No gold or silver work in October. It's hunting season. I will be back in November to get your Xmas work out. Thanks for waiting. K. K. Brown, Star Route, Castle Rock, Washington.

SORRY, but the many attractive Colorado Desert mineral specimens and cutting material we advertised in the September issue of Desert have all been sold and we are out of stock temporarily. We hope the many collectors who bought these items were well pleased with their material. We will have more fine items to announce later. Desert Blossom Rocks, Winterhaven, California.

NEW WONDERLITE U. V. BULB. Fits any standard electric socket. 50 hour, 300 watt, 105-120 volts, A.C. or D.C. Can be used continuously if desired. An excellent bulb giving beautiful results. Price \$2.60 tax and insured post included. H. STILLWELL & SON, Rockville Centre, N. Y.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalogue 5c. Lemley Antique Store, Osborne, Kansas.

AGATE JEWELRY AND OREGON AGATES—Ladies 10k gold rings, pointed or oval type, \$14.40 including excise tax. We make pendant necklaces, brooches, rings of several types. Sell plume and other agate by the slab. We guarantee satisfaction or will refund your money upon receipt of our merchandise. See that funds accompany your order. E. Lee Sigfrit, 211 Congress, Bend, Oregon.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Diopside, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1 1/2 x 2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

Choice Palm Root—Full of eyes showing root and trunk structure. Very colorful. Sliced for Cabochons. 25 cents per square inch. Satisfaction guaranteed. GASKILL, 400 North Muscatel, San Gabriel, Calif.

Minerals, Gems, Coins, Bills, Old Glass, Books, Stamps, Fossils, Buttons, Dolls, Weapons, Miniatures, Indian Silver Rings and Bracelets. Also Mexican. Catalogue 5c. Cowboy Lemley, Las Cruces, New Mexico.

Mineral Sets—24 Colorful Minerals (identified) in 1x1 compartments—Postage paid, \$3.50. Prospector's Set of 50 Minerals (identified) in 1x1 compartments in cloth reinforced sturdy cartons, Postage paid \$5.75. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

Good cutting material, Petrified Wood, Agate, Jasper, \$1.00 per lb. Special mixed lots \$4.00 for 5 lbs. Variscite specimen material \$1.00 per lb. and up. Geodes and Ribbon Rock, 5 lbs. for \$2.00. Please include postage. John L. James, Tonopah, Nevada.

EXPERIENCED TURQUOISE cutters wanted. Rate 2 cents per carat for 40 hours work, 3 cents per carat for cutting after 40 hours in one week. Can cut up to 53 hours per week. List references and experience in first reply. Maisel's Indian Trading Post, P. O. Box 1333, Albuquerque, N. M.

Colorado plume agate, sawed slabs, \$1 to \$30. All on approval. This is a new find, none better. Priced according to size and beauty. The Colorado Gem Co., Bayfield, Colo.

AGATES: A new find, not nodules. You have seen nothing like these, I am sure. Very high grade, bright colored Plume, Flower and Moss in shades of red, yellow, green, black, etc. Pieces will make striking, charming jewelry. Will sell slices excellent for gem cutting. Plume \$5.00 to \$25.00, Flower and Moss, \$1.50 to \$10.00 plus tax, postpaid. Send or come for your order now. Money back if not entirely satisfied. Mae Duquette, 407 No. Muscatel, San Gabriel, Calif.

MEXICAN FIRE OPAL and fine specimen opal, all colors, Tiger's Eye, Brazil Carnelian, slab Chrysocolla, Ceylon Sapphire, Mexican gem amethyst, Baddeleyite pebbles, Zirconian. Money back if not satisfied. The Desert Rat's Nest, 2667 E. Colorado St., E. Pasadena 8, California.

AMONG THE ROCK HUNTERS

Chicago Lapidary and Craft club is a new organization for those whose special interest is gem stones. Members will study gems, gem minerals and jewelry making. Anyone wishing information about this club may write the president pro-tem, Eldon Sams, care of The Lapidary Shop, Austin Town Hall, Chicago.

Southwest Mineralogists, Los Angeles, heard a talk by Victor M. Arciniega on Crestmore, at their social-educational meeting July 20. The following Sunday 50 members and friends took their first field trip in many months to the Crestmore field.

Members of Long Beach Mineralogical society were shocked and stunned at the sudden death of their beloved president, E. F. (Bill) Carlson of Bellflower, who was stricken with a heart attack while on a field trip near Tonopah, Nevada, August 5.

Sacramento Mineral society held a picnic meeting in McKinley Park July 27. This was such an enjoyable outing, it was decided to make the July picnic an annual event.

Forty-one members and guests were present at the July meeting of Sequoia Mineral society held in Parlier Park. During the study period Bill McRae spoke on tungsten. Elmer Geese gave his impressions of the Los Angeles lapidary show. Dinuba delegation invited the club to meet August 7 in Dinuba.

"Real Story of Staurolites" was subject chosen by Dr. C. H. Moore, of the National Lead company, for his talk before New Jersey Mineralogical society, Plainfield, August 7. A special all-day meeting was held August 19, combining picnic in Cedar Brook Park and a field trip to the Carnelian locality or to the Scotch Plains quarry.

Norman E. Dawson, of San Marcos, spoke to San Diego Mineralogical society August 12 on the occurrence of gem minerals in pegmatites. Meetings are in the YMCA auditorium, 8th Avenue and C Street.

FINE KENTUCKY FOSSILS. Rhynchotrema, snails, Chocolate Bryozoa, Stony Bryozoa, Crinoid stems, Platystrophia, Delicate Brachiopods, Starfish. Etc. Nine 3x4 Specimens, \$4.00. Unbroken Geodes, \$4.75 for 10 pounds. Postpaid. George Bryant, R. 2, Lawrenceburg, Ky.

JUST RECEIVED: Shipment of Nevada Turquoise, have also purchased entire mineral stock at Brea of Ed Matteson. Some good cutting material and very rare mineral specimens. Daniels Trading Post, 401 W. Foot-hill Blvd., Fontana, Calif.

ARIZONA GEMS & SPECIMENS

Agates, Jaspers, Petrified wood, with ferns, moss, birdseye, picture, trees, and flower. These are beautiful and of many colors. Choice slices \$5.00, \$10.00, \$15.00, \$20.00 and \$25.00 each. 8 slices of fine gem material all different \$25.00. 30 lbs. of Agates, Jaspers, and Petrified Wood, in mixed lots \$12.50. Gem geodes, Agates, Jaspers, Petrified wood, with one sawed surface, 5 for \$6.50, 12 for \$10.00.

Satisfaction Guaranteed. Send Deposit. Postage Extra.
Chas. E. Hill, 2205 N. 8th St., Phoenix, Arizona.

Victor M. Arciniega spoke on the geology of gems at the dinner meeting August 21 of Pacific Mineral society, Los Angeles. Mr. Arciniega, the club's technical advisor, is a consulting engineer and geologist, member of American Institute of Mining and Metallurgical Engineers, and instructor of mineralogy, geology and chemistry in the evening school of Manual Arts high school.

Chairman Ann Pipkin is laying ground-work for a bigger and better Hobby show to be held by Searles Lake Gem and Mineral society in October. Anyone who has a hobby or knows of someone with a hobby is urged to contact Mrs. Pipkin, Trona. The society is eager to encourage amateur hobbyists through the medium of its annual exhibit.

At the August 14 meeting of Texas Mineral society, Dallas, Frank Howell told of his explorations of the Texas Val Verde county prehistoric shelters. He displayed many of the Indian artifacts he had found, and explained their uses.

At the August meeting of Yavapai Gem and Mineral society, Prescott, A. De Angelis explained the art of cutting faceted gems, and Moulton B. Smith described his method of cutting and polishing rocks. Among the exhibits were fine specimens of polished nodules and Arizona minerals, including a junior display. Meetings are held second Thursday of each month.

A cloudburst in Surprise Canyon in August washed out the road below the Chris Wicht memorial clubhouse of Searles Lake Gem and Mineral society. Member Newell Merritt was the troubleshooter, investigating amount of damage and repairing water system.

A. A. Dixon, known by rockhounds throughout the country as the proprietor of an agate shop near Rogue River, lost his left arm in an automobile collision near Central Point, Oregon, August 20. His life was saved by an unidentified man who applied a tourniquet with a handkerchief and a screwdriver.

New Jersey Mineralogical society, Plainfield, announces that the November meeting is being planned as a combined meeting with the New York, Newark, Philadelphia and possibly other mineral societies. O. Ivan Lee, a member of this society, is the new president of the New York Mineralogical club.

Leland Quick, Desert Magazine writer, talked at a dinner meeting of Native Sons of the Golden West August 3 at Clark Hotel, Los Angeles, on amateur gem cutting and California gem history.

Searles Lake Gem and Mineral society planned to hold their annual potluck dinner meeting August 15 at Valley Wells, with Mrs. Edna Damron, chairman of refreshment committee.

Committee chairmen to serve Yavapai Gem and Mineral society, Prescott, for the year are: Mrs. J. Bryant Kasey, receptionist; A. De Angelis, membership and sales table; T. E. Harper, field trips; H. L. Womack, display table; Mrs. T. E. Harper, refreshments. Committee assistants are Mrs. Alvin A. Hanson, Floyd N. Wood and Moulton B. Smith.

At August 10 meeting of Los Angeles Dana Mineral club, Dr. John Herman and Howard Kegley, of the Los Angeles Times were the speakers. Future of Western minerals was discussed by Dr. Herman, who also told of his experiences in conducting experiments with uranium ore in 1932. Kegley, interspersing wit and humor with a thorough knowledge of oil geology spoke on "A Geological Buffet Dinner."

Cogitations . . .

Of a Rockhound

By LOUISE EATON

War's end. Tears of joy or relief in eyes of every adult American. Peace means much to everywun. Even those whose hearts are bleeding from th' loss uv loved ones are glad that th' conflict is over. In view uv all th' sorrow in th' world it seems almost sacreligious f'r rockhounds to rejoice that they can fieldtrip again. But they duz. Folkes is already beginnin to write their desert frens to see if th' invitation to visit um given four years ago still holds good.

When rockhounds 've been separated an' then reunited they begins conversation right where it left off. It may have been a week or a year in between con-flabs but time is wiped out. Opal or unidentified specimen that wuz under discussion last thing in June is furst thing to be talked about in October. Just as tho th' rockhounds hadn't been apart a tall.

Yu can make mountains out uv mole-hills if yu have enuf molehills. Little irritations, each wun insignificant p'r-haps, piles up an' piles up till finally th' sum total becumz more than human patience can bear an' yu explodes all over th' place. That's th' time to head f'r th' desert where things can be seen in their true value an' importance.

Umpqua Mineral club, Roseburg, Oregon, met August 8 at home of Mr. and Mrs. Leslie Roberts for a garden potluck dinner. "New Find of Oregon Zeolites," an article written by Mr. Roberts and published in August issue of *The Mineralogist* was read. The 22 members and guests present spent the evening viewing Mr. Roberts' extensive collection of rocks and minerals, and Mrs. Roberts' beautiful gardens.

H. Stanton Hill, mineralogy and crystallography instructor at Pasadena junior college, and Ralph Dietz were the speakers at August 13 meeting of Mineralogical Society of Southern California, Pasadena. Mr. Hill told of the early geological history of the Great Lakes region and the Tri-State district and the discovery of minerals and metals by the Indians. Mr. Dietz continued discussion of this area, as he described and exhibited some of the minerals found here.

GEMS . . .

GARNET, facet cut	ea. .50
TOPAZ, (quartz) facet cut	ea. .75
OPALS, Australian	ea. .25
MOSS AGATES (green or grey)	ea. .50
SARDONYX CAMEOS	ea. 1.50
TIGEREYE CAMEOS	ea. .50
TIGEREYE, blue, grey, or brown	ea. .50
AMAZONITE	ea. .50
SAPPHIRE, blue, orchid, or green	ea. 3.00
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MINIATURE SETS, Asst'd per doz.	\$6.00
50 RING STONES, including genuine and synthetic	\$7.50
SYNTHETIC RUBIES or GENUINE GARNETS, per carat	\$1.25
CAMEOS or OPALS—Genuine—12 for	\$3.75
100 JEWELRY STONES removed from rings, etc., \$2.40; 50 large ones	\$2.40
12 ARTICLES ANTIQUE JEWELRY, rings, pins, etc.	\$3.00
500 COSTUME JEWELRY STONES	\$2.00

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AMAZING BARGAINS! . . .

HIGH QUALITY STONES

Almandine Garnets (Madagascar)	ea. \$1.20
Green Garnets (Australia)	ea. 1.80
Opals (Australia)	ea. .95
Moonstones (Ceylon)	ea. 1.20
Sapphires (Blue & Golden, India)	ea. 2.40
Aquamarines (Brazil)	ea. 1.80
Sardonyx (South America)	ea. .90
Quartz Topaz (Brazil)	ea. 1.80
Amethysts (Brazil)	ea. 1.20
Turquoises (Persia)	ea. .90
Rough Quartz Topaz (Brazil)	ea. 1.80

All stones cut and polished. We guarantee complete satisfaction. See that remittance accompanies your order.

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Choice Specimens . . .

The fine specimens advertised below come from our Calcite Mines which are described in the August issue of the *Mineralogist* and the *Desert Magazine*.

CALCITE in superb crystal groups. 2x2 in.—\$2.00 to 4x5 in.—\$7.50

CLEAR CALCITE RHOMBS (Iceland Spar)—Fluoresces a beautiful red under the Mineralight. 35c to \$1.00 according to size and quality.

SPECIAL—Optical Basal Plates from which the secret gun sights were made. Never before advertised. These also fluoresce a nice red. 2x2 in.—\$1.00 to 5x7 in.—\$12.00

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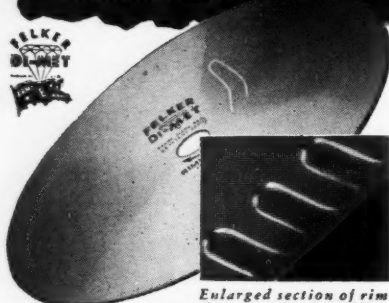
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Slash sawing time with
FELKER DI-MET RIMLOCK
Diamond Wheels



Enlarged section of rim shows special, relieved blade side and diamond tooth construction which provides unusually fast, free cutting.

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- ✓ Greater Diamond Wheel Economy per Dollar Invested

Due to Rimlock's remarkable cutting ability, almost all production has been going into military use. Now limited quantities have been released and are available for rock cutting. Write for literature, specifications and quotations.

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DIAMOND ABRASIVE WHEELS AND CUTTING MACHINES

Felker Di-Met Rimlock Diamond Blades

Available for immediate
Delivery from
Warner and Grieger

Diameter	Net Price Each
6"	4.60
8"	6.65
10"	8.70
12"	10.75
14"	14.80
16"	16.85
18"	20.90
20"	22.95
22"	25.50
24"	29.60

WARNER & GRIEGER

405 Ninita Parkway, Pasadena 4, Calif.
Phone Sy. 6-6423

Bob Deidrick, president East Bay Mineral society, will resume his classes in mineral identification at Tech High, 43rd & Broadway, Oakland, September 17, Monday and Friday evenings. "Cost is nominal and returns are invaluable."

Ethel Dyer, secretary of Old Baldy lapidary society, Glendora, California, writes that the membership limit of 25 is rapidly being reached now that service men are returning. Members all have excellent collections and in turn display five specimens at regular meetings. Summer picnic was held in San Dimas park August 5.

Thanks are due to secretaries and other correspondents of mineral groups for information sent promptly to Desert. A suggestion: Please remember to include in reports—Who, What, When, Where, Why. Give full names whenever possible.

Orange Belt mineralogical society enjoyed a covered dish dinner at August meeting. A specimen from the collection of the late Dr. Clark was won by a lucky visitor. The group plans to hold September gathering at Norco, Mr. Eells, host.

Dr. Mars F. Baumgardt, director of Griffith Park observatory and park commission of Los Angeles, was scheduled to speak on the Palomar 200-inch telescope at August 8 meeting of Long Beach Mineralogical society. Mrs. Shuster was to speak on Sardonix, mineral of the month.

A. J. McArthur, vice-president Los Angeles Mineralogical society, calls attention to an error in labeling minerals on page 15, August 1945 issue. Aragonite is incorrectly labeled Nail-head Spar, and vice versa. Desert Magazine apologizes to mineral students.

Tin and Tungsten Tests

Sequoia bulletin reports tests by Bob Deidrick for tin and tungsten. Tin test: Grind sample ore fine and dissolve in dilute hydrochloric acid, add small piece of aluminum or iron, filter if necessary. Add filtrate to a solution of mercuric chloride. If tin is present a gray precipitate will form (HgCl₂).

Tungsten test: Place small amount of finely powdered mineral sample in a test tube; add about 1/2 ounce concentrate HCl; heat mixture to boiling; when a lemon yellow residue begins to form in bottom of tube add a bit of metallic tin or zinc. If an appreciable amount of tungsten is present the solution will turn deep blue and later brown.

ANSWERS TO DESERT QUIZ

Questions are on page 18.

- 1—Mt. Whitney in California.
- 2—Piutes.
- 3—Butterfield.
- 4—Ceremonial purposes.
- 5—Death Valley.
- 6—Arizona.
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and polishing equipment. Lelande Quick, who conducts this department, is former president of Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, Calif.

By LELANDE QUICK

Nothing delights me more when I open my Desert Magazine mail than to find a letter from someone who has "discovered" gem cutting through this page, or at least has been influenced to do something with a latent gem cutting desire. A reader from Manitou Springs, Colorado, writes, "Through your department I have just caught a glimpse of the fascinating world of lapidary of which I had never dreamed and I am wondering if I have stumbled upon the very hobby I have been seeking."

But gem cutting is so much more than a hobby—it is an art. In fact it is the oldest art in existence for man adorned himself with hand polished pebbles long before he drew pictures on the walls of dark caves or organized a system of words that could be written. He carried gems as amulets long before he was smart enough to build a roof over his head. I seldom refer to gem cutting as a hobby because I think it belittles it. Stamp collecting or butterfly collecting is a hobby and so is mineral collecting but when you start to process the collected minerals into finished gems you're well on the road to becoming an artist. And I belong to that considerable group who earnestly hopes that some day someone will originate a better descriptive term than "rockhound." It's as ill chosen as "desert rat."

An attorney in a group I talked to recently about gems said, "I always wanted a 'shop' and I assembled one and then I didn't know how to begin to use it. I made a lamp or two and some other things but I didn't know where to go from there. I felt I needed to do something with my hands and this gem cutting is the answer to my big problem. I'm going to convert as fast as I can." Yes, there is a great blessing for professional men in having something to turn to where they can use their hands. It's the greatest medicine the army psychiatrist has and that is why recuperating casualties are given something to do with their hands as soon as they can sit up.

If a person wants a hobby nothing offers more satisfaction around the calendar than the collection and processing of gem materials. The hobby of hunting and fishing has its limitations to certain seasons. Stamp collecting never gets you outdoors while butterfly collecting gets you outdoors too much and it is seasonal too. There are many other hobbies whose value in any direction is extremely doubtful but aside from horticulture, which is also very rewarding, there is nothing as satisfying as gem cutting. It gets you outdoors to the far corners of the country to collect material. It provides a challenge for the imagination and to the skill of your hands. It rewards with materials that are deathless for probably no one in the history of the world ever intentionally destroyed or discarded a perfect gem. The first gems ever processed thousands of years ago still exist somewhere and the ones you process will remain to the end of time. No hobby is more worth while and eternal than gem cutting.

If you are not in a position to proceed to organize but intend doing so you can do as Mrs. John E. Ward is doing in Boston. You can prepare yourself for the great day by reading books about it. Mrs. Ward says, "I have a good nostalgic bawl over every issue. If Mr. Henderson ever runs a picture of a flaming ocotillo on the cover it will take the battle of Bunker Hill all over again to keep me here."

And now, of course, postponement is no longer necessary for those who have had to hold their plans in abeyance. One blessing of peace is the availability of all gem cutting machinery and motors by the time this appears. You don't need a shopful of machinery to cut good gems. You can pump up a tire by hand but compressed air at a service station is easier on the back.

J. E. Felker of Goleta, California, offers a formula for dopping cement for those who are dissatisfied with sealing wax. Take equal parts by weight of common lump rosin and asphaltum (the kind the roofers use) and melt and mix in a tin container. While it is hot dip your dops in and get a plentiful supply on each stick for future use. Felker's dopping procedure is no different than that in common use but he claims that his mixture has merit because "it's cheap, easily applied, has good holding quality, is easy to remove and clean from the stone." But J. A. Hummel of St. Paul, Minnesota, offers a more novel suggestion. He writes, "I have found that dentist's impression wax makes a very good dopping wax. After a dentist uses it once he throws it away and he is glad to give it to the lapidary. It adheres well to the dop stick and the specimen and it has just about the ideal melting point." Has anyone had experience with the above dopping materials or other ideas to offer? I'm going to stick to sealing wax until something else comes along that has the one feature I desire most—I want a material that doesn't burn the fingers when I get careless.

An interesting letter from Perry Fritz of Grant's Pass, Oregon, offers an excellent suggestion for displays of fluorescent materials. Mr. Fritz claims that people had trouble reading the signs of the fluorescent exhibit at the recent show of Los Angeles Lapidary society. He says, "the time the white light was on was too short. When a person picked out a specimen under the black light and watched for the change so he could read the card to learn its name the lights changed again. A better way would be to have the names of specimens printed with fluorescent paint." This suggestion permits uninterrupted study of fluorescent exhibits. It has disadvantages however and I have known of people who labeled their specimens with fluorescent paint only to abandon it in a hurry because the paint was so violently fluorescent that it dominated the view under the ultra-violet light. This was noticeable with the few specimens that were so labeled in the show. Many people who have tried the idea believe that the viewing of good specimens suffers when the paint is used.

Mr. Fritz sent me a unique arrangement for preheating stones before dopping. It is a spoon-like affair cut from metal screening. "The same thing can be accomplished," he says, "by the use of an old teaspoon. Drill numerous holes in the spoon, cut the handle short and insert it in a wooden handle (not a heat conductor) as you would a file. It is safer than handling a set with pliers.

Peace, blessed sweet peace and the high privilege of once again doing the things you want to do with an easy conscience. But please remember this—the desert is no safe place for most of today's tires.

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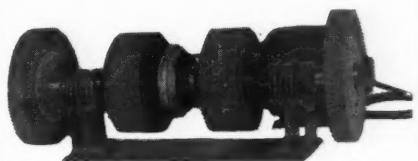
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By RANDALL HENDERSON

† HERE seems to be some difference of opinion as to who brought the war to an early end—whether it was the army, the air corps, the navy and marines, the atomic bomb, or the Russians—but as far as I am concerned the credit goes to all of them, plus the courage and industry and loyalty of the folks at home.

But it is over. And we are grateful. And we are determined that our world shall not again be allowed to drift into such cataclysmic folly. For that was our failure—we drifted. We were smug and self-confident. We were sure the storm clouds on the horizon were not of our making—and therefore would not loose their fury on us.

But we were wrong. They WERE of our making. Hitler and Mussolini and Hirohito were not the causes of the war. They merely were the product of an age when too many civilized men had come to regard science as more important than religion, money more important than art, justice more important than love, brains more important than morals.

We can see more clearly, now that the first atomic bomb has been exploded. For in releasing the power within the atom, science has attained one of its ultimate goals. It has created an instrument of colossal power. And yet we know this power can be used for the destruction as well as for the benefit of mankind.

Science is an impersonal thing. Whether it shall be used for good or evil, depends on what is in the hearts—not the minds—of men. For science is intellectual, and faith is a matter of the emotional life. It is what we feel, not what we think, that ultimately determines the course of life. As John MacMurray* so well expressed it:

"In the modern world, that is to say since the break-up of the mediaeval world, there has been an immense development of knowledge. There has, however, been no corresponding emotional development. As a result we are intellectually civilized and emotionally primitive; and we have reached the point at which development of knowledge threatens to destroy us. Knowledge is power, but emotion is the master of our values and of the uses, therefore, to which we put our power. Emotionally we are primitive, childish, undeveloped. Therefore, we have the tastes, the appetites, the interests and the apprehensions of children. But we have in our hands a vast set of powers, which are the products of our intellectual development. We have used these powers to construct an intricate machinery of life, all in the service of our childish desires. And now we are waking up to the fact that we cannot control it . . . That is the modern dilemma."

And that is why I say the war was of our own making. We have defeated Hitler and Hirohito and Mussolini—but that has not removed the causes of war. The things that make war are found in our emotional immaturity—in greed that takes the form of excessive tariffs and exploitation of labor and a thousand forms of chiseling and racketeering—in intolerance that takes the form of racial and religious hatreds—in fear which is faith in reverse—in dishonesty, the most insidious form of which is dishonest thinking.

**Freedom in the Modern World*. D. Appleton-Century Co. 1934

If we would keep faith with the men who died in Europe and Asia and Africa and the Pacific; if we would end wars; these are the problems we must solve.

* * *

Some one in the Indian service should be credited with a very potent idea. I refer to the recent news item announcing that 16 Hopi families from their reservation in northeastern Arizona, are to be colonized at Poston, Arizona, on the site now being vacated by Japanese evacuees.

If this move is being made with the full consent of the Hopi Indians—and is followed by further migration of these tribesmen—I can foresee a revolution in the economy of the Hopi.

For they are leaving one of the most barren areas in the desert Southwest, to occupy some of the most fertile land in the world—the Colorado river valley. If the Hopi are as intelligent and industrious as I have always credited them with being, and are given the opportunity to make the most of their new environment, they will acquire complete independence, and even wealth, in their new home.

The lands they will occupy are on the Colorado River Indian reservation. However, the Mojave, Yuma and Chemehuevi Indians for whom the reservation was set aside, have never utilized more than 15,000 out of the 75,000 acres of rich bottomland in their reservation. The remainder, until the Japanese were located there, was covered by mesquite and arrowweed.

Anyone who has seen the Hopi Indians nursing and cultivating the dwarfed little stalks of corn that grow in their tiny gardens at the foot of the Hopi mesas will know how meager is the livelihood of these tribesmen. There is no hope for more than a starvation economy in their present homeland. With the rich lands of the Colorado valley at their disposal, they truly will have migrated to a land overflowing with milk and honey.

I hope they like their new homes, and I am pulling for their success. For if the program works out, the time will come before many years when the Hopi can thumb their noses at the guardianship of Uncle Sam—and discard the reservation boundaries and emerge as free and independent American citizens. And don't think they won't be able to hold their own in the white man's world. They are smart traders—as many of their present Navajo neighbors will testify.

But I am wondering what will become of the snake dances—the annual prayer for rain—when the Hopi can get all the water he wants by opening a gate in the irrigation ditch.

* * *

On the mesas of northeastern Arizona the Hopi Indians held their snake dances—their annual prayers for rain—August 22 and 26. The rain gods were good this year—they brought showers to Hopi cornfields even before the dances were held.

Elsewhere in the desert country the story was much the same—record August rainfall. It almost seemed as if the God of Nature—now that the war was ended—wanted to help mankind forget; wanted to refresh and revitalize the earth; to cover the scars left by armies on training maneuvers, to wash the canyons clean, to change the drab brown landscape to living green, dotted with the brilliant reds and yellows and whites of wildflowers in blossom.

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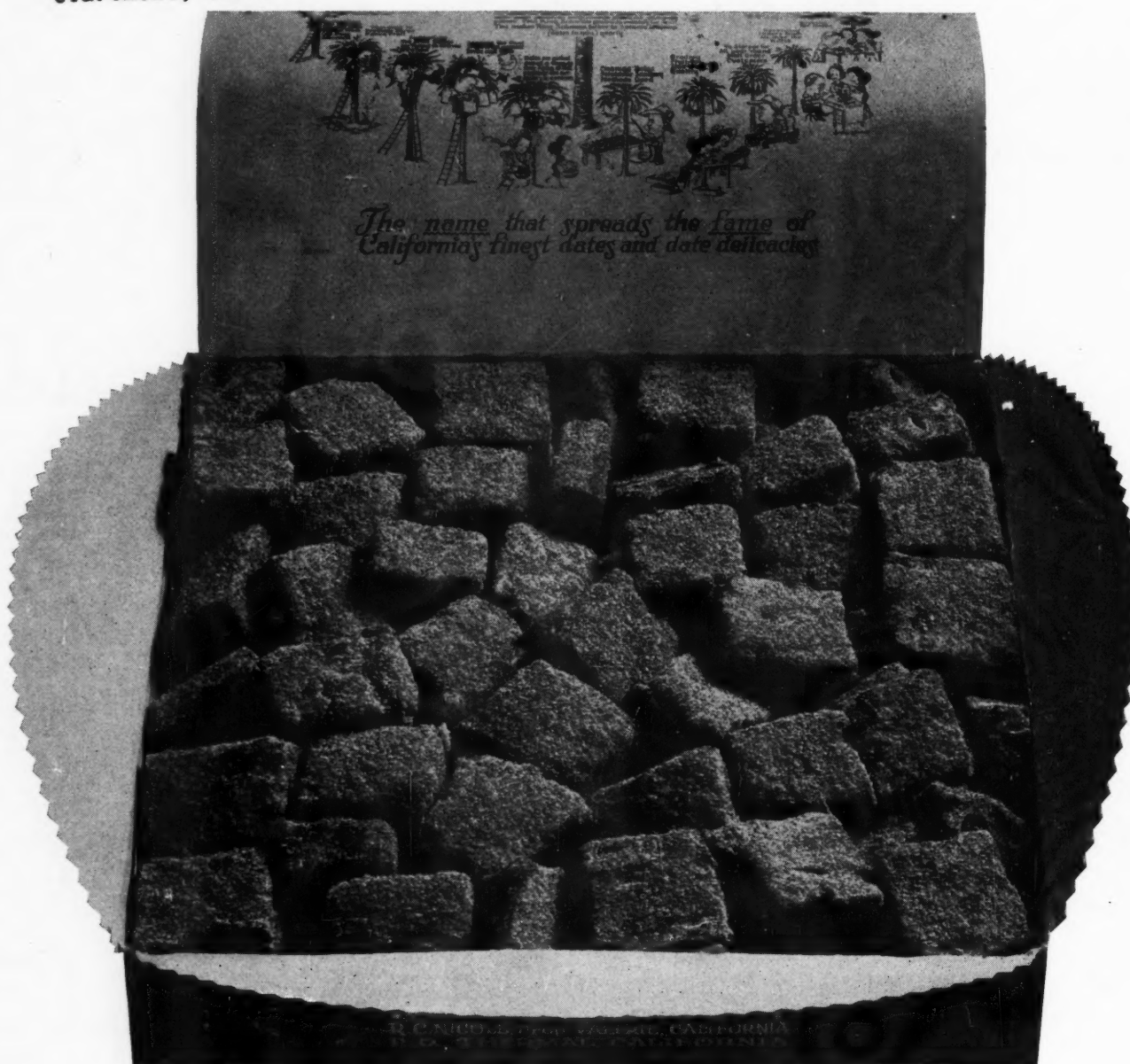
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